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ECONOMIC INSTRUMENTS AND DISINCENTIVES TO SOUND ENVIRONMENTAL PRACTICES

**FINAL REPORT
OF THE
TASK FORCE**

November 1994



ECONOMIC INSTRUMENTS AND DISINCENTIVES TO SOUND ENVIRONMENTAL PRACTICES

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to Sound Environmental Practices

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PREFACE

This report of the Task Force on Economic Instruments and Disincentives to Sound Environmental Practices was approved at a meeting of the Task Force on November 18, 1994. The members listed below participated in that meeting, or indicated their approval following the meeting. In approving the report, members, acting in their personal capacity, agree that it accurately reflects the work of the Task Force, and recommend that it be the subject of consultations leading up to the 1995 federal budget. Approval of the report by a member does not mean that the organization with which the member is associated approves the report, nor does it mean that the member agrees with every statement contained in it.

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INTRODUCTION

In *Creating Opportunity* (the 'Red Book'), the federal government outlined its commitment to the adoption of economic and environmental agendas that converge.

This commitment was reiterated in the Speech from the Throne of January 1994, which affirmed that the federal government agenda is based on an integrated approach to economic, social and environmental policy. The Speech also highlighted as federal government policy the promotion of sustainable development as an integral component of decision-making at all levels of our society.

As a step towards this commitment, the government announced in the February 1994 budget the establishment of a multistakeholder task force to find effective ways in which to use economic instruments to protect the environment and to identify barriers and disincentives to sound environmental practices. In his budget speech, the Minister of Finance reiterated the government's commitment to sustainable development and stressed that the achievement of this objective would require an examination of the way government "does business now and a search for new ways of doing business in the future".

In July 1994, the Ministers of the Environment and Finance announced the establishment of the Task Force on Economic Instruments and Disincentives to Sound Environmental Practices, consisting of business leaders, academics, environmentalists and government officials. Task Force members participated in their personal capacities. The terms of reference of the Task Force (Appendix I) ask it to identify, for possible consideration in the consultations leading up to the 1995 budget, workable options for the implementation of one or more market-based instruments, and to identify one or more barriers or disincentives to sound environmental practices. The terms of reference also ask it to provide advice on issues to be addressed over a longer time frame – in particular, to identify areas where market-based instruments could be developed and implemented over a longer time frame, and propose steps that could be taken in those areas, and to develop a framework for identifying barriers and disincentives to sound environmental practices.

The Task Force's results reflect the specific mandate it was given and the very limited time available to carry it out. It has not performed the comprehensive baseline review of federal taxes, grants and subsidies promised in *Creating Opportunity*. In addition, the Task Force was unable to focus its attention on some of the most promising applications of economic instruments, which lie in whole or in part outside federal jurisdiction.

Nevertheless, the Task Force believes it has made a first step towards the pragmatic integration of environmental and economic policies, and one which stakeholders have been advocating for some time. It has identified a number of promising applications of economic instruments, both short-term and long-term, and believes its work can provide an impetus to the practical implementation of these instruments. It has also identified a number of specific government policy barriers

or potential barriers to the achievement of environmental goals; perhaps more importantly, it has developed a framework for a systematic review of barriers and their potential removal over a longer time frame.

This is the first time there has been a well-defined exercise to introduce environmental elements into the budget process. The Task Force believes this process should continue to evolve and indicates its strong support for continuing initiatives to study further, analyze and advise on the application of economic instruments and the removal of barriers to sound environmental practice. While it did not reach consensus in all areas, by bringing together diverse views which will feed into the budget consultations, the Task Force believes it has laid the groundwork for increased environmental and economic policy integration in future years.

The main body of this report is presented in the following five sections. The first section presents the rationale for the increasing convergence of environmental and economic agendas while the second section contains an overview of the process through which the Task Force completed its work. The measures that the Task Force recommends for consultation in the lead-up to the 1995 budget are described in the third section. These include proposals to implement new economic instruments as well as measures to reduce or eliminate barriers or disincentives to sound environmental practices. The fourth section contains the work of the Task Force on longer term issues, including specific proposals for consideration by the government on both economic instruments and barriers and disincentives. In addition, the work of the Task Force in developing a framework to identify and remove barriers and disincentives over a longer time frame is described in this section. It also includes recommendations on the processes required to address longer term measures and on the further development and implementation of the framework. Finally, the conclusions are presented in the last section of the report.

CONVERGING OF ECONOMIC AND ENVIRONMENTAL AGENDAS

The fundamental goal of sustainable development requires that public policy and market forces create incentives to achieve environmental, social and economic objectives in an integrated and coherent manner. Considerable change is required to achieve this goal. Environmental degradation at the local, national and international level undermines prospects for continued economic development. While addressing this mounting ecological debt, the government must also continue to wrestle with the challenge of reducing the national debt; preparing for the potentially profound economic and social transformations that may be necessary to participate successfully in an increasingly open global market place; eradicating poverty; and ensuring that all members of society have equal opportunities for meaningful employment and social participation.

Both aspects of the Task Force's mandate have important roles to play with respect to ensuring the type of integrated decision making required to respond to these challenges. Sustainable development requires that public policies account for economic, environmental and social objectives at the earliest possible stages. Such integration has not always occurred in the past, however. In particular, public policies have often been developed without explicit consideration of their potential environmental consequences. The elimination and replacement of existing barriers and disincentives to environmentally sound practices with more creative ways to achieve environmental, economic and social objectives together is an important prerequisite to further progress towards sustainable development.

Sustainable development also requires that market price signals ensure environmentally sound practices. In many cases, economic instruments represent a significant opportunity to harness creative market forces to achieve environmental objectives in the most economically efficient manner possible. In addition to a burgeoning academic literature on the subject, there are increasing examples of the use of economic instruments. Waste discharge fees are used in Canada, the U.S. and the European Community. A number of countries use deposit refund systems for a wide range of consumer products. Tradeable emission permits are used for sulphur dioxide emissions in the U.S. and taxes on carbon are used in European countries.

Although Canada has not made extensive use of economic instruments, there are some examples of their use, with deposit refund systems for beverage containers being the most prominent. In addition, considerable work has been done by governments and stakeholders to advance the serious consideration of the practical implementation of economic instruments to achieve specific environmental goals.

Examples of this work include a federal government discussion paper released in 1992, and the report of the Economic Instruments Collaborative in 1993¹. The Task Force saw its principal role with respect to economic instruments as being to build on existing work in order to provide an impetus to the implementation of economic instruments where they are an effective tool.

It is recognized that certain existing government policies and programs may inadvertently act as barriers or disincentives to sound environmental practices. In some cases, it may be possible to alter these policies and programs to allow their economic and social objectives to be achieved at less cost to the environment, and perhaps even with a fiscal benefit. In other cases, this may not be possible – in these cases the government is faced, at least in the short term, with a trade-off between the achievement of economic or social and environmental objectives.

Work on identifying such public policy barriers has been carried out in a number of countries, and by some institutions and international organizations (such as the Organization for Economic Cooperation and Development). However, there is no well-established and agreed-upon methodology for identifying these barriers. The Task Force saw its principal role with respect to barriers and disincentives as being to initiate work in this area in Canada by identifying a number of specific barriers, by providing guidance on how to identify barriers in a systematic way, and by providing recommendations as to how the government can begin to undertake a systematic review of all its policies for their environmental implications.

¹ Government of Canada, *Economic Instruments for Environmental Protection* (Ottawa: Minister of Supply and Services Canada, 1992).

Economic Instruments Collaborative, *Achieving Atmospheric Quality Objectives through the Use of Economic Instruments: A Final Report of the Economic Instruments Collaborative* (Ottawa: National Round Table on the Environment and the Economy, October 1993).

TASK FORCE PROCESS

The Ministers of the Environment and Finance announced the establishment of the Task Force on Economic Instruments and Disincentives to Sound Environmental Practices in July 1994. The Task Force included representation from academia, environmental and other interest groups, industry, and government, selected on the basis of their personal expertise in economic and environmental issues. Officials from the province of New Brunswick, in recognition of its role as chair of the CCME (Canadian Council of Ministers of the Environment) were invited to observe Task Force proceedings and to provide liaison on Task Force developments to all provinces and territories.

A secretariat was established in the Departments of Finance and Environment to take direction from the Task Force, and provide it with information and undertake analytical work as appropriate. In addition, officials from other federal departments attended Task Force meetings on request to provide information and respond to questions from members on specific aspects of federal programs and policies.

A two-tiered structure, comprising the full Task Force and smaller working groups, was agreed upon. Members could choose to sit on one or both of the two working groups that were set up, one dealing with Economic Instruments and another to examine Barriers and Disincentives. Reports on the work and deliberations of the working groups were presented to plenary meetings of the Task Force. All Task Force decisions were made during these plenary meetings.

The Task Force established criteria to help it identify measures for more in-depth consideration, including: environmental significance; socio-economic impact; fiscal impact; jurisdiction; degree of stakeholder support; availability of supporting analysis; and administrative manageability. These criteria were particularly useful as a tool for the Task Force in deciding which measures it wished to consider further in its work.

Other factors taken into consideration included: costs of administration and compliance; employment implications; opportunity to demonstrate leadership; political implications; and micro- versus macro-economic implications.

The agenda of the Task Force was shaped by the mandate it was given and influenced by the interests, experience and expertise of individual members. The working groups then assessed the proposed measures against the set of criteria, separating the measures into categories. The first category listed the Short Term Priorities – recommendations for the 1995 budget consultations process, including measures which the Task Force supported, but which were being dealt with in the context of existing processes or work under way. The second category included Medium to Long Term Priorities – recommendations which the government should consider, but not in the context of the 1995 budget. In addition, the working group on barriers and disincentives developed the framework for a systematic review of barriers and disincentives to sound environmental practices.

The Task Force consisted of experts in a variety of environmental, industrial and academic fields, who contributed generously of their time, intellect and experience. They were ably supported by the secretariat provided by the federal government, which did brief analyses of the very large number of measures proposed by the Task Force and its working groups.

In carrying out its work, the Task Force faced a number of hurdles: a short deadline; the breadth of an agenda encompassing pressing problems of economy/environment integration; and the newness of the process. It is also important to note the Task Force was a diverse group of people acting in their individual capacities. The diversity of views strengthened the representativeness of the process but limited the ability of the Task Force to reach consensus in some areas. Nor did the group have a substantial body of existing Canadian literature on specific Canadian economic instruments and barriers to draw on. The measures considered reflect the creativity and experience of participants. Task Force members recognize that further work is required both in terms of budget consultations and longer term analytical work devoted to an improved understanding of the underlying issues.

Given these constraints, the Task Force restricted its proposed measures in the first category to recommendations within federal jurisdiction (since otherwise implementation in the 1995 budget would not be feasible). The Task Force fully recognized that some of the most promising potential applications of economic instruments lie in shared federal-provincial jurisdiction; these measures were therefore put on the list for longer term consideration. The time constraint also meant that development of a list of barriers and disincentives for consideration in the budget consultations, and development of the framework for longer term analysis, had to proceed in tandem; it was therefore not possible to apply the framework to these measures as envisaged by the Terms of Reference.

Some members also found that they were constrained by the mandate of the Task Force itself, which asks for options for the application of economic instruments rather than options for addressing specific environmental problems. The Task Force therefore found itself in the position of considering whether a given proposed application of an economic instrument was desirable, rather than whether the economic instrument was the most appropriate measure among alternatives to address the environmental problem in question.

In addition to the above, Task Force members noted that there are three broad options for addressing certain types of barriers – redesigning a measure, removing it or offsetting it with a countervailing measure. While removing the barrier may yield fiscal benefits, it also forces more difficult policy trade-offs. The Task Force did not fully explore and was unable to reach agreement on these trade-offs in the short time available for its work.

Despite these constraints, the Task Force believes that it has identified a number of substantive measures for consideration in the budget consultations, and that some of the longer-term items it has identified would make a significant contribution to environment-economy integration. It also believes that the framework it has developed can provide important guidance for a systematic review of barriers and disincentives, and supports the government's commitment to have departments develop sustainable development strategies, which it believes provides an appropriate context for the review. The Task Force believes that it is extremely important to maintain the momentum of its work.

RECOMMENDATIONS FOR 1995 BUDGET CONSULTATIONS

The Task Force recommends that the government bring the following measures to the attention of Canadians in the course of consultations leading to the 1995 budget. The Task Force does not necessarily agree that the measures should be implemented.

Most of the following measures are the subject of consensus recommendations in that all Task Force members agree that they meet the criteria the Task Force had established. There was consensus, also, that a number of proposed measures did not clearly meet the Task Force's criteria, and these measures were not brought forward as part of this report. Finally, in the case of some measures, consensus on whether or not they met the criteria was not achieved; divergent views were expressed relating to criteria such as the economic repercussions of the measure or its environmental effectiveness. In those cases, the divergent views are set out following the recommendations in question, in a 'for and against' format.

For most measures, the details of the recommendations need to be developed further. These include such issues as the scope of the measure (e.g., targets, costs and amounts), administrative details, legal requirements and timelines. The Task Force recommends that the government address these issues further. In some cases, particularly the more contentious measures, the economic and environmental implications of the measure will have to be examined in much greater detail.

In all cases, how a recommendation is implemented will determine the actual fiscal impacts. The Task Force did not prescribe one approach over another. However, the Task Force was cognizant of the need for the government to take account of the fiscal implications of the individual measures and of the package as a whole in the consultations process.

The recommendations are grouped together in sectoral clusters, reflecting the integrated nature of the issues being addressed. In addition, the discussion below does not distinguish between economic instruments and barriers and disincentives. This reflects the recognition on the part of the Task Force that, in many cases, there is overlap between the introduction of an economic instrument and the removal of a barrier. It also reflects the fact that some of the measures which the Task Force considered in the context of its economic instruments work may not meet the traditional definition of an economic instrument, but do fall under the general heading of measures related to the integration of environmental and economic concerns.

The first set of measures are all within federal jurisdiction. The second set are measures supported by the Task Force which are being examined elsewhere and are already well advanced.

Measures for Budget Consultation

Energy

The energy sector emerged as the priority area for analysis and review by the Task Force. Energy issues, more than any other, dominated the discussion at the plenary sessions of the Task Force as well as at the working group meetings. They also accounted for a major proportion of the analytical support that the Secretariat provided to the Task Force. The number of energy issues is consistent with the overriding concern that members expressed during the inaugural Task Force meeting with air issues, including climate change, acid rain and urban smog.

MEASURES WITH CONSENSUS

Energy Retrofits – RRSP Financing

The federal Income Tax Act should be amended to allow withdrawals, up to a maximum of, for instance, \$5,000, from RRSPs to be used for energy efficiency retrofits in residential housing. This measure is consistent with government objectives to improve energy efficiency and reduce greenhouse gas emissions. Eligible RRSP contributions are those made up to and including 1994 contributions. This measure should include certain renewable energy retrofits, such as the installation of solar hot water heaters. Eligible retrofits should be clearly defined to be consistent with government efforts to improve efficiency, and there should be a sunset clause.

This measure would be similar to the Home Buyers' Plan in the federal *Income Tax Act* which allows individuals to withdraw funds to purchase a home without tax consequences. It would effectively provide individuals with access to the capital in their RRSP accounts to finance residential energy retrofits without tax consequences – funds withdrawn from the RRSP account for energy retrofits would not be taxable provided they are repaid to the RRSP account within a specified period. This measure would promote energy efficiency while stimulating activity in the residential energy retrofit sector.

Energy Retrofits – Enhanced Financing

The federal government should encourage financial institutions to provide loans for home energy and commercial sector energy and water efficiency retrofits. These loans would include:

- *discounted interest rates to reflect the lower risk of default associated with energy and water efficiency loans; and*
- *higher debt service payment to income ratios, to reflect the fact that additional funds to pay off the loans will be made available by savings in operating costs created by the retrofits and need not require additional owner income.*

Home-owners and businesses have difficulty acquiring financing for energy and water retrofits because financial institutions do not account for the savings in energy costs generated by retrofits. By enhancing the availability of funding for energy and water efficiency retrofits, homeowners and businesses will be encouraged to exploit these efficiencies. The measure would also generate economic benefits by increasing activity in the energy and water efficiency retrofit sector.

Energy Efficient Mortgages

The federal government should encourage financial institutions to provide energy efficient mortgages for newly constructed homes with energy efficiency ratings of R-2000 or above. The elements of the program would include:

- *discounted interest rates; and*
- *more favourable debt to income ratios to reflect the lower operating costs of energy efficient homes.*

In assessing mortgage applications, financial institutions frequently do not account for the lower energy costs of energy efficient homes – energy costs are reduced by 25 per cent for R-2000 compared to standard homes. This measure would create an incentive for new home buyers to purchase more energy efficient housing, and thereby encourage developers to build it.

Level Playing Field in the Energy Sector

The government should state in the 1995 budget its commitment and a timetable to promote energy efficiency and renewable energy, and should state that to this end it will undertake to ensure that:

- *federal energy Research and Development (R&D) and demonstration spending does not favour non-renewable over other energy options and recognizes the fact that past federal R&D and demonstration expenditure patterns have tended to be weighted to non-renewables; and*
- *the tax system ensures equitable treatment of energy efficiency, renewable energy and non-renewable energy.*

The government should also immediately attempt to identify specific measures that it can announce in the 1995 budget that will promote the objectives stated above.

This proposal seeks a strong commitment from government to increase the role of renewable energy and energy efficiency in Canada by establishing a level playing field with the non-renewable sector in terms of R&D expenditures. It also seeks a commitment from government to undertake the appropriate reviews and any necessary follow-up action to ensure that the tax system does not place one energy option at a competitive disadvantage relative to others.

Flow-Through Shares

As long as the government continues to allow flow-through share financing, it should undertake to extend the availability of flow-through share financing to renewable energy and certain other carefully defined environmental industries.

The rationale for this proposal is to promote the renewable energy sector and certain other environmental industries involved in environmental protection. Flow-through shares are used to stimulate investments in exploration and development in Canada by mining and petroleum companies. Through the use of flow-through shares, a resource company can transfer income tax deductions associated with new expenditures on exploration and development to investors, typically in exchange for a premium over the market price of the company's common shares. Extending flow-through share financing to the renewable sector would provide it with access to a financing mechanism currently available to the oil and gas and mining sectors.

MEASURES WITHOUT CONSENSUS

Consensus could not be achieved around the following measures dealing with the federal role within the nuclear industry. In light of this, Task Force members taking different views agreed to present the key arguments supporting their respective positions in the following statements.

Federal AECL R&D Subsidy

In the 1995 budget the federal government should terminate the CANDU Owners Group (COG) agreement, eliminate the federal contribution to Atomic Energy of Canada Limited (AECL) under the COG agreement, and commit to review federal financial support for the nuclear industry.

AECL coordinates Canadian nuclear R&D. In 1990, the federal government entered into a seven-year funding commitment for nuclear R&D in conjunction with agreements between the CANDU Owners Group and AECL. The agreements commit the three utilities operating CANDU reactors, through the COG, and the federal government to jointly support AECL research and development in support of existing CANDU reactors. In addition, the federal government agreed to continue to support AECL expenditures for 'non-COG R&D' and for basic science. In 1993-94, the total federal R&D contribution to AECL amounted to \$157 million, of which \$88 million was provided under the COG agreement.

PROS

Nuclear power receives about twice as much each year in federal R&D subsidies as all other energy options combined – including coal, oil, natural gas, conservation and renewables, while only contributing 4 per cent of Canada's total energy use, less than that provided by fuel wood. Continued subsidization of the nuclear industry undermines the Red Book commitment to job creation and energy efficiency. The subsidy to R&D is one small part of the total subsidy to this industry, if one includes the costs of: loan write-offs; the *Nuclear Liability Act*; heavy water production; waste storage; and decommissioning.

Reducing federal subsidies for nuclear would be consistent with the user pay principle, which states that users of a service should pay the full costs of providing it. The utilities do not pay taxes, providing a further subsidy to the industry. Moreover, according to the Auditor General's 1993 report, AECL's reporting does not meet recognized accounting principles and omits reference to substantial liabilities. The federal government remains exposed to multi-billion dollar liabilities for the clean-up and decommissioning of nuclear installations. AECL's current estimate for disposal of high level waste is \$13 billion.

CONS

Nuclear provides about 17 per cent of Canadian electricity supply. The nuclear industry is one of the few Canadian hi-tech industries that has been successfully commercialized, yields spin-offs, and supports other hi-tech opportunities. Support for nuclear is consistent with Red Book objectives to support R&D and hi-tech business opportunities.

Canada does not have a large vertically integrated nuclear industry. It collects economic rent through taxes rather than direct payments from industry to support R&D. In addition, federal revenues received from the nuclear industry (\$700 million annually) far exceed the cost of government support to AECL's R&D program. Most Canadian utilities are provincial Crown corporations, of which only three rely on nuclear energy for a component of their generation capacity. Moreover, AECL's estimate of \$13 billion for high level waste disposal relates to a conceptual disposal facility described in a study submitted to FEARO. For several years Canadian utilities with nuclear plants have been making financial provisions for the disposal of used fuel (and the decommissioning of nuclear plants) through a charge for these purposes which is included in the consumer power rates.

PROS

The utilities could pick up the federal share of the R&D funding, essentially shifting that component from federal taxpayers to electricity consumers in the relevant provinces; the higher price of electricity would provide an incentive for consumers to switch to alternative sources of energy and to conserve.

The replacement of nuclear by efficiency and renewable energy technologies would lead to increased employment in those sectors, which are largely made up of small and medium enterprises and have export potential. For dollar invested, investments in energy efficiency and renewables will create two to five times as many jobs as the same dollar invested in nuclear. For example, the Darlington reactor cost \$14 billion and created only 1,000 permanent jobs or \$14 million per job created.

Nuclear technology raises a number of environmental issues, such as the production of high level radioactive wastes, the radioactive tailings from uranium mining (now estimated at 165 million tonnes), the routine emissions of radioactive materials into air and water, and the risk of a catastrophic nuclear accident. Routine emissions constitute a serious environmental and health problem, leading the Ontario government's Advisory Committee on Environmental Standards to recommend lowering the allowable standard for radioactive tritium in drinking water from 40,000 Becquerels per litre (Bq/l) to 100 Bq/l.

CONS

If the utilities were to provide the funding in place of the federal government, the direct cost of nuclear generated electricity would increase, which could have a negative impact on the competitiveness of industries which rely on electricity as an input.

CANDU exports create jobs in Canada. The elimination of federal funding could lead to the decline in the nuclear industry, which employs about 30,000 people directly and another 10,000 indirectly. In addition, 75 per cent or more of revenues from CANDU sales go to the private sector, mostly small and medium enterprises.

Uranium is an abundant, secure, Canadian source of fuel. Full-cost accounting studies indicate that nuclear energy's external costs (including health, safety) are significantly lower than those for all other conventional, new and renewable base load options. AECL has developed a concept for the safe disposal of high level radioactive wastes. The system proposed has been deemed acceptable by other countries. In addition, routine emissions from nuclear plants are normally less than 1 per cent of the regulated limits. Canadian exports of nuclear material and technology are subject to the most stringent system of controls in the

PROS

Some consider the full-cost accounting studies indicating that nuclear energy's external costs are significantly lower than those for all other conventional, new and renewable base load options to be extremely inadequate. The viability of Canadian nuclear technology depends upon exports to other countries raising serious questions about the proliferation of nuclear weapons capabilities, thus jeopardizing global sustainability.

Independent studies have concluded that nuclear power is an expensive and quite ineffective way to reduce greenhouse gas emissions. Investments in energy efficiency are not only cheaper and faster, but they typically displace about seven times as much in the way of greenhouse gas emissions (per dollar invested) than nuclear power does. The demand for nuclear power could be met through safer, greener means. Reallocation of funds to the environmental sector (green technology) will provide future sustainable jobs.

CONS

world and are subject to regular inspections and material accounting procedures set up and administered by the United Nations' International Atomic Energy Agency. Diversion or improper use of Canadian material would be detected.

A study completed by Ontario Hydro indicates that full-energy-chain greenhouse gas emission factors of nuclear energy are lower than those of fossil fuels and some renewable energy sources. Nuclear energy is a sustainable base load electricity generation option for Canada. Without the current CANDU reactors, annual greenhouse and acid gas emissions from electricity generation in Canada would be over 50 per cent higher than they are today.

Transport

The Task Force also spent considerable time on the analysis of transportation issues. Transportation policy can have a significant impact on air issues, particularly urban smog, as well as on Canada's international competitiveness. The transportation measures that the Task Force evaluated for consideration in the consultations leading up to the 1995 budget are outlined below.

MEASURES WITH CONSENSUS

Tax Exemption for Transit Passes

The federal Income Tax Act should be amended to provide a tax exemption for employer-provided transit passes. This measure would send appropriate signals to employers and employees and represents a positive step in efforts to reduce energy consumption, atmospheric pollutants and traffic congestion in urban centres. This measure should be combined with enhanced enforcement of tax provisions respecting employer-provided parking benefits.

Under current legislation, employer-provided transit passes and parking benefits are taxable benefits for employees. By making employer-provided transit passes tax exempt, employees will be encouraged to use public transit over single occupancy vehicles. This measure would also allow the federal government to build on existing provincial and municipal efforts to maintain and promote the use of public transit systems. In this way, the federal government can assist in enhancing the viability of public transit systems and address environmental problems associated with automobile use.

With respect to the taxable status of employer-provided parking benefits, it is not clear whether all parking benefits are being reported for tax purposes. The closing of possible loopholes in the reporting of these benefits could significantly reinforce the effectiveness of this recommendation.

MEASURES WITHOUT CONSENSUS

The following two measures were the subject of extensive discussions both at the level of the working groups and by the Task Force as a whole. Since consensus could not be achieved around these measures, Task Force members taking different views agreed to present the key arguments supporting their respective positions in the following statements.

Increased Gasoline Tax

The federal government should increase federal excise taxes on gasoline (by, for example, \$0.02/litre) and redirect the revenue to create a Transportation Efficiency Fund. The Fund would be administered in cooperation with the provinces and would be aimed at encouraging investments in environmentally sustainable and

economically efficient transportation options. Provincial and municipal governments would receive matching grants from the federal government for programs to improve transportation efficiency.

In 1990, motor gasoline consumption was estimated to contribute 61 per cent of CO₂ emissions from the transportation sector or about 18 per cent of total CO₂ emissions. The environmental gains from this measure would be derived from any reduced fuel consumption and emissions resulting from increased fuel prices and from redirecting the tax revenues towards transportation efficiency projects. Eligible projects could include investments in: public transit; upgrading and expanding passenger and freight rail; infrastructure development for high occupancy vehicle lanes, ride sharing, cycling and pedestrian facilities; developing model land use planning focused on transportation efficiency; telecommuting; full-cost parking and road pricing, fleet management and procurement; development of alternative fuels (particularly ethanol and hybrids) and fuel cells.

PROS

This measure is consistent with government objectives to reduce emissions of greenhouse gases, smog, acid rain and hazardous air pollutants, and to promote energy conservation. It would also lead to reduced traffic congestion. It would also signal the federal government's interest in moving towards environmental taxation consistent with the polluter pays principle and towards the internalization of the environmental costs of gasoline use, and it would encourage increased use of alternative fuels.

The Transportation Efficiency Fund could be matched with provincial funding to leverage significant environmental gains.

CONS

This level of taxation is not expected to have a significant impact on greenhouse gas emissions. Air quality problems may be more effectively addressed by regional jurisdictions using other more direct measures.

The absence of specific environmental projects associated with the Transportation Efficiency Fund makes it difficult to assess the environmental benefit of the measure compared to its economic cost, as well as whether the gasoline tax is the most appropriate instrument to raise funds.

Canadian gasoline taxes are the second lowest in the OECD. Our gasoline usage/car/year is the second highest in the OECD.

Given the high level of car usage in Canada, the tax burden associated with current gasoline taxes in Canada is significant. Gasoline taxes in Canada are already equivalent to a carbon tax of about \$110 per tonne, and are considerably higher than in the U.S. An increased fuel tax would have some negative competitiveness impacts and could lead to increased cross border purchases of gasoline and fuel smuggling.

Gas Guzzler Tax with Rebate (Feebate)

The federal government should implement a 'feebate' system for new vehicle purchases.

A 'feebate' is a tax on new automobiles that are less fuel efficient than a nominal fleet target efficiency, with a rebate provided for vehicles with fuel efficiencies above the nominal fleet target efficiency. Such a measure would be aimed at reducing greenhouse gas emissions by increasing the demand for more fuel-efficient vehicles and by encouraging manufacturers to install more fuel-efficient technology in new vehicles.

PROS

This measure is consistent with government objectives to conserve energy and reduce greenhouse gas emissions. A feebate would do so by increasing the demand for fuel-efficient vehicles and by encouraging manufacturers to install more fuel-efficient technology in new vehicles. While some vehicles will become more expensive, thus leading to a delay in purchasing a new vehicle, other vehicles will become more affordable, thus leading to accelerated purchase of these vehicles. Preliminary analysis has suggested that a feebate would reduce CO₂ emissions in the long term.

CONS

Feebates do not provide any incentive to reduce vehicle usage. As fuel efficiency increases, vehicle usage could actually increase which would offset some of the emission reductions due to the improvement in fuel efficiency. An increase in usage would negatively affect urban air quality. Feebates will also increase the costs of new vehicles with high fuel consumption rates. This may cause prospective purchasers to delay purchase or to settle for a used vehicle, thus delaying the retirement of older, less fuel-efficient vehicles. Finally, manufacturers will not likely install fuel-efficient technology solely for the Canadian market.

From a tax equity perspective, on average, feebates are progressive as more expensive vehicles are more likely to have higher fuel consumption rates, and thus be subject to a tax, while less expensive vehicles would be more likely to receive a rebate. If the feebate system is designed to be revenue neutral, then the net effect of the measure would be to neither provide an incentive nor a disincentive for new car purchases.

Some studies have shown that, in total, consumers can actually benefit from feebate programs. Moreover, to the extent that such a measure would encourage the installation of new fuel-efficiency technology, it would have a positive impact on the producers of such technology. A feebate could also be designed to be revenue-neutral, or could be designed to raise revenue.

This measure would discriminate against people who are constrained in their vehicle choices and need larger vehicles – e.g., those with large families. The intended use of the vehicle is also not taken into account. A loaded, six passenger car-pool vehicle is more efficient than a single occupant economy car. Moreover, this measure could be characterized as a tax focused inequitably on new car buyers.

This measure will have a negative impact on the Canadian economy if it shifts demand from Canadian manufactured vehicles to those built elsewhere. It could create a hostile sales and investment environment in Canada for Canadian manufactured vehicles, and could negatively affect a manufacturer's ability to win new product mandates for retooling of Canadian plants in the future.

Government Stewardship

The Task Force recognizes that the federal government, through its operations and programs, has a major impact on the environment. The following measures would provide the federal government with a greater role for stewardship over the environment. The Task Force believes that federal leadership in this area would encourage business, other levels of government and private citizens to become more aware of the environment and the need for economic and environmental agendas that point in the same direction.

MEASURES WITH CONSENSUS

Federal Government Operations

Sound federal environmental stewardship requires the incorporation of environmental considerations into all aspects of government operations. In this regard, the Task Force recommends that the government attach high priority to ensuring that efforts to green government operations are pursued with equal vigour across all government departments and that clear targets are set so that

progress can be easily measured. Moreover, the Task Force recommends that actions to that effect, including the following, be announced in the context of the 1995 budget:

- *Stimulate the development of Canadian environmental industries by requiring increased use of open bidding in procurement of government goods and services.*
- *Ensure, where feasible and appropriate, that government procurement decisions utilize performance specifications which incorporate environmental considerations, as opposed to design specifications. Performance specifications allow suppliers to identify the most appropriate technical solutions to operational requirements while fostering innovation and promoting best value in government purchasing.*
- *Negotiate with its power suppliers across the country to supply a specific percentage, for example, 15 or 20 per cent of federal power purchases with 'green power', to be phased in by 2010 taking due consideration of cost. The purpose of this initiative would be threefold: to demonstrate leadership in supporting renewable energy; to reduce the impact of its operations on the environment by adopting sustainable development practices; and to support the development of renewable energy options. Green power can include, but is not limited to, technologies such as micro hydro (normally under 20 MW), bioenergy, landfill gas, wind energy, photovoltaics, solar thermal, geothermal energy, high efficiency cogeneration, ethanol, and hydrogen from renewable sources. Such purchases would complement federal programs to improve energy efficiency such as the Federal Buildings Initiative.*
- *Eliminate subsidized federal government parking such as that provided to senior government officials and any parking benefits provided for Members of Parliament and other permit holders on Parliament Hill. This action would acknowledge the fact that charging for parking privileges can be a critical factor in persuading individuals to shift away from single occupancy vehicle commuting to more appropriate means of transportation and thereby reduce urban congestion and pollution problems.*
- *Assign target levels and timetables, to be reviewed annually, for the purchase of alternative and renewable fuel powered vehicles for the federal fleet and the fleets of Crown corporations. This measure is consistent with government objectives to reduce greenhouse gas emissions as well as other atmospheric pollutants, promote development of 'green' technology, and in some cases improve energy efficiency. Alternative and renewable transportation fuels could include, but should not be limited to: methanol, ethanol, gasohol, hydrogen from renewable sources, natural gas, propane, coal derived liquids, electricity, fuel cells, and hybrids. This measure could be complemented by a fuel-use policy which would set targets for use of alternative fuels.'*

The federal government has expressed a commitment to putting its own house in order including the improvement of management systems and operational practices of federal government departments to provide for greater consistency with

sustainable development. These measures would clearly demonstrate the government's commitment to act on this initiative while stimulating employment in environmental industries. They would also complement initiatives already underway, including: the creation of a Commissioner of the Environment and Sustainable Development, the Federal Environmental Procurement Framework, the Code of Federal Environmental Stewardship, the Environment Canada 'Green Procurement Policy' and the recent expansion of the Federal Buildings Initiative.

Federal Government Programs

The government should ensure that sustainable development is explicitly included among the objectives for all federal programs, and should ensure that decision making and spending criteria explicitly require the integration of economic, social and environmental criteria. Examples of relevant programs include: the Industrial Research Assistance Program (National Research Council); the Advanced Manufacturing Technology Application Program (National Research Council); the Forest Industries Research and Development and Innovation Program (Natural Resources Canada); regional development program (Atlantic Canada Opportunities Agency, Western Economic Diversification Canada, etc.) support for the timber and pulp and paper industries; the Manufacturing Assessment Service (Industry Canada); and the Defence Industry Productivity Program (Industry Canada).

The Task Force identified these examples of programs which do not explicitly provide for the promotion of sustainable development as a program objective or criteria for determining spending decisions. The explicit recognition of environmental objectives up-front in their decision-making framework will guide government officials when making their decisions and, hence, assist them in making progress towards the government's sustainable development objectives.

Agriculture Canada Programs

Agriculture Canada should sponsor appropriate programs, including whole system, on-farm research, market development, and consumer education, to assist farmers seeking to adopt more environmentally sustainable farming practices.

There is an increasing awareness that whole system field research is particularly effective in facilitating increased agricultural sustainability, and that market research and consumer education also have important roles to play.

Conservation

Parliament's commitment to preserve 12 per cent of Canada's representative land-based natural regions by the year 2000 requires a variety of alternatives to supplement the traditional government approach of purchase of land.

The current tax system treats donations to the Crown and third parties (i.e. municipalities or charitable institutions) differently in terms of the maximum amount that may be claimed for a donation tax credit or deduction in any year (see table). As well, donations of land may be subject to capital gains tax, payable by the donor.

Donation to:	Deductible up to ____ per cent of net income (per cent)	Capital gains tax payable?
Federal government	100	yes
Provincial government	100	yes
Municipalities	20	yes
Charitable institutions	20	yes

These provisions in the current tax regime act as a disincentive to individuals who own ecologically sensitive land and/or conservation covenants², and who would otherwise donate the land and/or covenant to a charitable institution or to a municipality.

The Task Force agreed that there was scope for the federal government to encourage donations of ecologically sensitive land which will contribute towards this goal of conservation of biodiversity. The measures below would increase the tax benefits of such donations and provide an additional incentive for landowners to donate their ecologically sensitive land.

MEASURES WITH CONSENSUS

Land Donations for Conservation

The government should amend the Income Tax Act to exempt from capital gains tax all donations of ecologically sensitive land made in perpetuity to all levels of government and charitable institutions.

The government should amend the Income Tax Act to equalize the treatment of donations of ecologically sensitive land to charitable institutions and municipalities with similar donations to the Crown. This would involve removing the 20 per cent (of net income) cap on the deductibility of such donations.

The government should amend the Income Tax Act to exempt from capital gains and allow 100 per cent (of net income) deductibility of donations of conservation covenants on ecologically sensitive land.

² Conservation covenants are restrictions on the use of land that lower its commercial value but, in this case, promote environmental objectives.

Other Measures

MEASURES WITH CONSENSUS

Duties on Imported Pollution Control Equipment

The government should reduce or eliminate duties on certain classes of imported pollution control equipment.

Customs duties are currently charged under the *Customs Tariff Act* on certain importations of pollution control equipment. By reducing or eliminating such duties for specific importations where the imported equipment is environmentally superior, the costs to Canadian firms of addressing environmental pollution would be lowered.

This recommendation would apply only to imports from countries other than the U.S., as custom duties on such imports will be phased out by 1998 under the Free Trade Agreement.

Virgin and Recycled Material

The government should state in the 1995 budget its commitment and a timetable to promote greater use of recycled material. The government should also immediately attempt to identify specific measures that it can announce in the 1995 budget, including the provision of equitable tax treatment of virgin and recycled material, to remove barriers and disincentives to the use of recycled material.

Research still in progress suggests that certain federal and provincial tax disincentives to secondary material processing and marketing exist. This measure would place manufacturers of recycled materials on an equal footing with producers of virgin materials. It would promote the national goal of a 50 per cent reduction of waste by the year 2000 compared to 1988 levels.

Measures Already Under Way

The following are measures supported by the Task Force which are being examined elsewhere and which are already well advanced.

Pesticide Use

The Task Force acknowledges the ongoing multistakeholder process associated with the implementation of the recommendations of the Pesticide Registration Review which is committed to addressing the issue of cost recovery for a pesticide management regulatory system and examination of options for risk reduction.

In the context of this exercise, the Task Force recommends consideration of the full range of options for reducing risks and costs associated with pesticide use, including:

- *registration fees for the recovery of costs associated with the pesticide regulatory system;*
- *options for generating funds for the promotion of environmentally sound alternative approaches, including prevention; and*
- *the potential application of broader charges in the residential sector.*

Federal Buildings Initiative

The Task Force indicates its support for the expansion of the Federal Buildings Initiative as announced by Natural Resources Minister Anne McLellan on November 1, 1994. This program is now moving into an operational phase, and is aimed at improving the energy efficiency of federal government facilities through access to third party funding.

The Federal Buildings Initiative (FBI) is part of the federal government's commitment to put its own house in order by improving the operational practices of federal government departments to provide for greater consistency with sustainable development. A key component of the FBI is energy service management contracting. This is a mechanism that allows departments to invest in customized energy efficiency improvements within their facilities while financing the total cost of these projects entirely from the energy savings that result. Through this mechanism, departments can implement energy efficiency improvements without the investment of front-end capital.

Ocean Dumping – Permit Fees

The Task Force indicates its support for the process currently under way by the federal government through stakeholder consultations on the Ocean Disposal Action Plan. Options to be considered include:

- *the creation of a permit fee with the objective of covering the costs of monitoring under the Ocean Disposal Program; and*
- *a polluter pays fee with a sliding scale based on volume and toxicity.*

As part of its cost recovery goal (user pay principle), the Ocean Dumping Regulations were amended in September 1993 to increase the permit application fee from a range of \$50 to \$1,000 to a flat fee of \$2,500. The Ocean Disposal program is now considering an additional permit fee primarily to cover the \$600,000 to \$800,000 annual monitoring cost. The ocean disposal permit system is a fundamental requirement for meeting international commitments under the 1972 London Dumping Convention as well as domestic requirements under the *Canadian Environmental Protection Act*.

Transferable Allowances for Hydrochlorofluorocarbons (HCFC) Phase-out

The Task Force indicates its support for the establishment of transferable allowances for HCFC phase-out which would build on the existing Ozone Depleting Substances regulations. This measure is proposed by Environment Canada in order to meet Canada's commitments under the Montreal Protocol on Substances that Deplete the Ozone Layer to phase out the consumption of HCFCs by 2030.

Environment Canada is proposing that transferable allowances be used for HCFC phaseout. This proposal would involve the allocation of HCFC consumption allowances which, once allocated, could be transferred among participants. This measure was proposed by Environment Canada in order to meet Canada's commitment under the Montreal Protocol on Substances that Deplete the Ozone Layer to phase out the consumption of HCFCs by 2030. (Additional information on tradeable permits is contained in the section on 'Recommendations for longer term consideration' in the context of controlling sulphur dioxide (SO₂) emissions.)

Transferable Allowances for Methyl Bromide

The Task Force supports the establishment of transferable allowances for the control of production and consumption of methyl bromide. As part of the 1994 amendments to the Ozone Depleting Substances regulations, such a system will be implemented on January 1, 1995. This measure will address commitments made under the Montreal Protocol on Substances that Deplete the Ozone Layer calling for a freeze on methyl bromide consumption by 1995 as well as domestic commitments for a 25 per cent reduction.

This measure was proposed by Environment Canada after examination of a range of options for meeting international and domestic commitments respecting the consumption and production of methyl bromide. This measure, along with the previous measure for HCFCs, would represent a significant extension of the use of transferable allowances for addressing environmental objectives. Such allowances allow for certainty in meeting specific quantitative targets while providing for greater flexibility and cost savings among affected parties.

RECOMMENDATIONS FOR LONGER TERM CONSIDERATION

In addition to making recommendation on measures for consideration in the consultations leading up to the 1995 budget, the Terms of Reference instruct the Task Force to develop a framework to undertake a systematic review of barriers and disincentives to sound environmental practices over a longer time frame. The members dedicated a considerable portion of their energies to this task. The results of their work is outlined below, beginning with a summary description of the evaluation framework.

The key issues that the government would need to address in order to implement the framework in a systematic and comprehensive fashion are also set out.

The Terms of Reference also ask the Task Force to provide advice on measures to be addressed over a longer time frame. This section therefore sets out a number of specific measures which the Task Force believes merit further analysis, discussion and development for the longer term.

I. Framework for Analysis of Barriers and Disincentives

The goal of the analytical framework for identifying barriers and disincentives is to promote sustainable development by fostering the integration of environmental considerations with economic and social considerations in government decision making. The framework is found in Appendix II; its major points are summarized below.

The framework examines three issues that the government would need to address to achieve this objective:

Issue 1: How to identify barriers to sound environmental practices.

Issue 2: How to determine which barriers to reduce or eliminate.

Issue 3: How to prevent the unnecessary creation of barriers in the future.

Issue 1: Identification of barriers

In order to conduct a comprehensive review of barriers and disincentives to environmentally sound practices, the first step for the government would be to identify objectives and principles for sound environmental decision making. A 'barrier' is then an overall policy approach, a set of policies, or one or more discrete measures that impede attainment of these objectives or principles.

The second step would be for the government to review each set of sectoral policies as well as a number of potential cross-cutting measures, including:

- the overall system of taxation in the context of fiscal federalism;
- the division of responsibility between the federal and provincial governments for environmental management;
- institutional barriers; and
- the traditional norms for supporting and evaluating research.

This analysis may identify a number of discrete barriers that should then be assessed further.

The rationale for this approach is that, in some cases, barriers will represent – or be caused by – an underlying policy bias that must be addressed before focusing on discrete policies and measures. A comprehensive review of barriers should therefore start with an assessment of systemic and sectoral barriers before focusing on discrete barriers that may be identified in the sectoral reviews. This provides for an increasingly refined focus to ensure that the overall policy context is well understood before decisions are made to modify specific policies.

Issue 2: Determine which barriers to eliminate or reduce

Wherever feasible, the government should develop options to reduce or eliminate each barrier it identifies. These options would need to consider alternative ways to attain the government's social and economic objectives while also achieving its environmental objectives and principles. In many cases, this will require distinguishing ultimate objectives (e.g., access to energy services) from delivery objectives (the means by which the ultimate objective is achieved, such as increased energy supply or decreased energy demand). In general, departments should first consider the opportunities for creative redesign by asking, for example:

- what are the policy objectives associated with the barrier?
- are these objectives still valid?
- are these objectives being attained?
- in any event, could these objectives be attained in a less environmentally damaging manner?
- could redesign also contribute to other objectives?

If it is not possible to deal with a barrier through redesign, policy makers would need to consider the following options:

- eliminate or modify the measure;
- introduce a counter-balancing measure(s); and

- no action (i.e. a barrier to sound environmental practice may be justified if (i) it achieves socio-economic benefits and (ii) there are no environmentally superior alternatives to achieve these benefits).

If it appears the desirable option is to eliminate or modify the barrier, the actual determination should consider the net effect of moving from the status quo to an alternative. Five main categories of information would be needed to conduct such an analysis:

- the environmental benefits of reform;
- the economic impact of reform;
- the fiscal impact of reform;
- the social policy impact of reform; and
- the administrative and implementation feasibility of reform.

If, on the basis of an analysis using the five categories of information above, barriers are identified for elimination, it will be necessary to establish priorities. Top priorities should be barriers whose reduction will enhance environmental quality while contributing to other social, fiscal and economic objectives. Priorities should also reflect the feasibility of eliminating, replacing or reducing the barrier.

Issue 3: Preventing the creation of new barriers

The long term objective of the government should be to promote sustainable development by ensuring that environmental, social and economic considerations are integrated and considered at the earliest possible stage in decision-making. This will require a number of fundamental reforms, including:

- establishing sustainable development objectives to guide government activity in relevant sectors;
- assessing policy decisions requiring cabinet approval for their environmental implications;
- clear lines of public and internal accountability;
- a commitment to environmental science;
- developing indicators to measure progress;
- organizational reforms;
- ensuring the cost effectiveness of environmental policies and programs; and
- developing new analytical tools and skills to improve the government's ability to integrate environmental and economic considerations.

Practical Limitations

This analytical framework represents an ideal. There will be several practical constraints to its application. First, some of the information required will not be available or may be too costly to generate. Second, because the relationship between human activity and the environment is so complex, it may not be analytically possible to link a certain government program to a particular environmental consequence. Third, there are inherent limitations to such an analytical approach. The principle of sustainable development is based on the ultimate compatibility of economic and environmental objectives. However, decisions about whether a barrier ought to be removed or altered in some cases will depend on trade-offs between environmental and other objectives. Such trade-offs will be underlain by value choices which will have to be resolved through a political process rather than dictated by an analytical method.

Given these limitations, it must be emphasized that failure to complete any single step in this framework should not impede immediate and ongoing efforts to identify and eliminate discrete barriers, many of which are relatively easy to identify, and some of which have been identified by this Task Force.

Implementing the Framework

The Terms of Reference of the Task Force mandate it to recommend a process and a time frame for implementing the framework. The Task Force's recommendations for the implementation of the framework focus on the main elements of the framework, addressing: what needs to be done, who should do it, within what time frame, and how the public should be involved.

In making its recommendations, the Task Force focused on the objectives it believes need to be met, leaving government to choose the most effective and efficient means for doing so.

The Task Force, in developing its recommendations, undertook to integrate the implementation of the framework as much as possible into relevant existing or announced government initiatives. The recommendations therefore build on the government's proposed amendments to the *Auditor General Act*, in particular, the creation of a Commissioner of the Environment and Sustainable Development in the Office of the Auditor General, and the requirement for government departments to develop, within two years, sustainable development strategies which include objectives, goals and action plans. These strategies will be elements of a proposed government initiative to develop a federal sustainable development framework.

The framework developed by the Task Force is an important tool for undertaking a systematic review of barriers and disincentives to sound environmental practices. It is the view of the Task Force that the framework can effectively assist departments in the development of their sustainable development strategies – in establishing their goals and objectives, and in developing action plans for achieving them. The Task Force expects that the elements of the framework will evolve and be further refined based on experience with implementing it.

Recommendations

1. Definition of environmentally sound practice

Rationale

The development of departmental strategies and the sustainable development framework provide an important opportunity and a mechanism for the government to define environmentally sound practices, and to establish environmental priorities.

Recommendation

The Task Force recommends that, within one year of its report, the Minister of the Environment should, within the context of the development of departmental strategies and the proposed sustainable development framework, take the steps needed to define sound environmental practice by:

- *developing general environmental objectives;*
- *defining the principles the government will employ to promote sound environmental practice, including the precautionary principle, pollution prevention, the polluter pays principle, and environmental cost internalization; and*
- *defining the government's environmental priorities for environmental protection and conservation.*

2. Sectoral reviews

Rationale

The framework recommends that barriers and disincentives to environmentally sound practices be identified and analyzed primarily on a sectoral basis. Under the proposed amendments to the *Auditor General Act*, each federal department will be required to develop sustainable development strategies that set out concrete goals, objectives and action plans within two years of the passage of the amendments to the Act.

Recommendation

The Task Force recommends that, within two years of passage of the amendments to the Auditor General Act mandating the development of departmental sustainable development strategies, each federal department should, in accordance with the attached framework:

- *develop and announce sectoral environmental objectives for the sectors for which it is responsible; and*
- *identify and assess barriers to sound environmental practices in the sectors for which it is responsible, recognizing the interlinkages between the mandates of federal departments, and inter-governmental jurisdictional issues.*

3. Cross-cutting issues

Rationale

Several of the barriers identified in the framework cut across government policies and are not primarily sectoral in nature. Many of these barriers therefore would unlikely be reviewed by departments while preparing their sustainable development strategies.

Recommendation

The Task Force recommends that the Minister of Finance should commit in the 1995 budget to review the current tax system and the prospects for ecological tax reform with a view to reducing existing barriers to environmentally sound practice while also contributing to social and economic objectives, taking into account the impact on the federal tax system of the existing federal provincial fiscal regime.

The Minister of the Environment should ensure that, within two years, other cross-cutting barriers to sound environmental practices are assessed in accordance with the attached framework, including:

- *institutional issues, such as jurisdictional fragmentation within and between federal departments and the medium by medium (rather than ecosystem-based) focus of some environmental legislation; and*
- *whether and how the prevailing norms governing the funding and evaluation of research by the government undermine the attainment of sound environmental practices.*

The government could ask an independent body to undertake these cross-cutting reviews. The government itself could also undertake the reviews, either as special studies, and/or part of any ongoing reviews. Some of the reviews may also be undertaken in the context of the development of the proposed sustainable development framework.

4. Implementation

Rationale

In its announcement of the creation of the Commissioner of the Environment and Sustainable Development, the government recognized that the elimination of barriers and disincentives to sound environmental practices will be a long term process which will require both nurturing and monitoring to succeed. Although the Commissioner's specific responsibilities are yet to be defined, the government's response to the report of the Standing Committee on the Environment and Sustainable Development – which addressed the Red Book commitment to establish

an Environmental Auditor General – explicitly indicates that the government sees the Commissioner playing an important role in holding the government publicly accountable for:

- departmental progress in the achievement of departmental sustainable development strategies; and
- continuing its efforts to identify barriers and disincentives to sound environmental practices.

Recommendation

Government departments should use the framework as a tool to assist them in the development of their sustainable development strategies.

The Commissioner of the Environment and Sustainable Development should monitor and report on the departments' use of the framework in developing their strategies, and on the government's performance in completing a systematic review of barriers and disincentives to sound environmental practices by, for example:

- *commenting on the consistency of the governmental and departmental environmental objectives;*
- *monitoring the effectiveness of the application of the principles of sound environmental practices developed by the government; and*
- *identifying and recommending requirements for additional work on identifying and assessing barriers to sound environmental practices.*

5. Public Involvement

Rationale

The implementation of the framework will at times require the reconciliation of trade-offs among environmental, economic and social objectives, which should consider the views of the public.

Recommendation

The Task Force recommends that Ministers involve stakeholders throughout the implementation of the framework.

6. Reporting

Rationale

One of the most effective mechanisms to ensure continued progress is to build in a periodic reporting requirement.

Recommendation

The Task Force recommends that:

- *the Minister of the Environment should report annually on the government's progress in meeting its environmental objectives and priorities and, in greater depth, in the State of the Environment Report (which is currently released every five years);*
- *departments should report progress in identifying and removing barriers, including cross-cutting barriers, as part of their annual requirement to include in Part III of their Estimates their progress towards meeting sustainable development goals and objectives.*

II. Measures for Longer Term Consideration

The measures in this section – particularly the economic instruments – include some of the more interesting measures considered by the Task Force, with the greatest potential for achieving economic and environmental goals. They were not included in the first category because they did not meet one or more of the necessary criteria; most frequently, they either required federal-provincial coordination or they could not be adequately developed within the time available for this initiative.

The measures listed below do not constitute a comprehensive list either in the case of economic instruments or barriers and disincentives. The measures were proposed by individual members of the Task Force and were not subject to the same degree of scrutiny as the measures for budget consultation. The descriptive paragraphs were not the subject of full Task Force review, and the Task Force did not explore the degree of consensus surrounding either the measure or any recommended process.

The measures below are in varying stages of development, and will require additional analysis and refinement. In some cases, specific processes are recommended for following up on the measures. These are also set out below. The Task Force agreed, however, that these measures should be addressed in the context of implementing the framework.

Ecological Tax Reform

A comprehensive analysis of the tax system could be undertaken with the objective of implementing ecological tax reform.

Ecological tax reform has a number of aspects ranging from the removal of perceived barriers created by the tax system to sound environmental practices, to shifting taxes from economic 'goods' to environmental 'bads'. One proposal is that revenues from taxes on goods and activities that degrade the environment be used to cut taxes on labour and/or capital. This initiative may yield a double dividend in the form of improved environmental quality and a healthier economy with a higher level of employment. The Task Force recognizes that the concept of ecological tax reform requires greater definition and that its feasibility needs to be assessed; it recommends that the government examine the prospects for ecological tax reform.

Transport

Incentives for Alternative Transportation Fuels

Measures could be introduced to encourage alternative transportation fuels, including:

- *incentives for reformulated fuels based on their impact on greenhouse gases (GHGs) and other atmospheric pollutants (nitrogen oxide (NO_x), volatile organic compounds (VOCs), and sulphur dioxide (SO₂));*
- *10 per cent ethanol blended gasoline;*
- *design and construction of a ligno-cellulosic ethanol pilot plant in cooperation with private investors; and*
- *incentives for the purchase of alternative-fuelled vehicles.*

Alternative transportation fuels, such as ethanol, methanol, natural gas, and propane have the potential to decrease the air pollution caused by the use of conventional fuels, and mitigate greenhouse gas (GHG) emissions which contribute to climate change. Certain alternative fuels offer lower tailpipe emissions than conventional fuels, but higher emissions at the production stage. Accordingly, a full comparison of the environmental impact of alternative fuels, including a full analysis of the lifecycle emissions from fuel production, conversion, and supply, as well as from vehicles, would need to be undertaken before specific action is taken in this area. There could nonetheless be real economic opportunities, as well as environmental benefits, from a move to alternative fuels. Support for ethanol-blended gasoline, for example, would help the ethanol industry and would provide further benefits to the agriculture sector. The Task Force therefore supports the work of the National Air Issues Coordinating Committee (NAICC) in examining these measures.

Promote User Pay Road Pricing

User-pay road pricing guidelines or conditions could be attached to the financing of a national highway system (i.e. inter-city highways).

This measure would require the integration of user-pay road pricing objectives into federal-provincial cost-sharing arrangements on a national highway system. Implementation of such a measure would increase overall economic efficiency, reduce both federal and provincial costs associated with the highway system and would be consistent with measures to reduce GHG emissions and other atmospheric pollutants such as smog, acid rain and hazardous air pollutants. Furthermore, it would signal government's intent to move towards full-cost road pricing. The Task Force recommends the government support the consideration of this measure as part of any review of existing financing mechanisms for a national highway system.

Fuel Efficiency Premium

Fuel efficiency premiums could be adopted where practicable. Where provinces do adopt such premiums, the federal government could encourage harmonization between provinces.

A fuel efficiency premium consists of an annual fee (usually a registration surcharge) on vehicles based on their fuel efficiency. Vehicles with higher fuel consumption would be charged higher rates. Administration of the measure could be complex, involving the need to examine the actual (as distinct from rated) fuel efficiency of a vehicle. However, if implemented effectively, such a measure could reduce greenhouse gas emissions by discouraging ownership of vehicles with high rates of fuel consumption. As vehicle registration is a provincial responsibility, this measure would fall under provincial jurisdiction. The Task Force supports the work of the NAICC in examining this measure.

Waste

Packaging Stewardship Initiative

A comprehensive packaging stewardship initiative, which would build on the momentum created by the CCME and the CIPSI, could be adopted. The initiative could incorporate a range of elements including a packaging levy.

Packaging stewardship is the principle by which industries assume responsibility for the environmental impact caused by the packaging that they introduce into the marketplace. This principle has received support from industry, government and environment representatives. The Canadian Council of Ministers of the Environment (CCME) has undertaken preliminary discussions with industry on packaging stewardship and has identified areas where national harmonization might enhance the effectiveness and efficiency of stewardship initiatives in Canada. This initiative is consistent with the CCME's National Packaging Protocol adopted in 1990 which sets a national goal of reducing packaging waste disposal by 50 per cent by the year 2000, compared to 1988. The Canadian Industry Packaging Stewardship Initiative (CIPSI), an industry coalition of packaging users, has developed a specific program proposal for packaging stewardship under which packaging users would pay a weight based levy to an industry administered fund for the purposes of diverting packaging waste from disposal. Bilateral negotiations have been initiated between CIPSI and a number of provinces. The Task Force supports the discussions between CCME and industry on the development of an effective, broadly-based and widely-accepted packaging stewardship initiative.

Charge on the Generation of Hazardous Waste

Charges could be levied on the generation of hazardous waste. The charge could be levied on products or substances and would be applied at a manufacturing or retail level.

It is estimated that approximately six million tonnes of hazardous waste is generated in Canada per year. The charge could be designed to impose greater costs on hazardous wastes associated with the highest environmental risk, to induce manufacturers and consumers to reduce production and consumption of these items. The Task Force supports the consideration by CCME of this measure.

Restructure Tax Accounting of Buildings

The existing tax system could be examined to determine the extent to which it might encourage the premature demolition of buildings. If the tax system is found to encourage premature demolition, then remedial measures would need to be developed.

There has been a suggestion that the existing federal tax structure might encourage the premature demolition of buildings. Construction and demolition debris comprises a large portion (roughly 30 per cent) of the Canadian solid waste stream. If the tax system does encourage premature demolition of buildings, then it could be contributing to the solid waste problem in Canada. Reform of this aspect of the tax system could, therefore, reduce the amount of solid waste generated in Canada. However, there has been very little work in Canada examining this issue. The Task Force recommends that the government work with relevant outside experts to examine this issue.

Use Recycled Tires in Asphalt

A requirement to use rubber-modified asphalt, where feasible, on roads built with federal money could be introduced.

Scrap tires pose significant disposal problems: they resist compaction and therefore take up a disproportionate volume in landfills; they can rise to the top of landfills due to methane gas collecting in their cavities; and tire stockpiles are a fire hazard. One solution to the scrap tire problem could be the use of recycled tires in asphalt for road building. Rubber-modified asphalt is currently being tested in Ontario and Quebec; however, its long time durability and relative physical, economic and environmental benefits compared to regular asphalt have yet to be fully determined. Further positive test results will be required before rubber-modified asphalt becomes a generally accepted way to recycle used tires. The Task Force recommends the government monitor and support the ongoing tests of rubber-modified asphalt.

Air Quality

Tradeable Allowances for Sulphur Dioxide (SO₂) Control in Eastern and Western Canada

Tradeable allowances systems for SO₂ control in Eastern and Western Canada could be implemented.

Canada is committed to a national cap of 3.2 million tonnes of SO₂ and a regional cap of 1.75 million tonnes for Nova Scotia, New Brunswick, P.E.I., southeastern Ontario and southern Quebec. While most eastern provinces are currently meeting their caps, new scientific evidence suggests that current measures may not be enough and that emission limits should be restricted further. Acidic deposition is not currently a problem in most areas in western Canada. Small areas in southern B.C., northern Saskatchewan and western Manitoba are somewhat sensitive to acidic deposition, but given current emission projections it appears unlikely that deposition in any of these areas will reach or exceed critical thresholds. Proposals for tradeable allowances for SO₂ control in Eastern and Western Canada have been discussed by stakeholders and they have recognized the merits of allowance trading. These measures would be either under provincial or shared federal/provincial jurisdiction.

Allowance trading systems or tradeable permits essentially harness market forces to encourage industry to develop cost-effective measures and technologies to reduce pollution. They have potential application to large stationary sources of emissions within discrete geographical areas. In these cases, the pollution problem, and hence its solution, are localized and the major polluters can be readily identified.

Tradeable permit schemes would set overall targets for pollution reduction and, within these targets, provide specific pollution allowances to each of the major polluters. Technically, each polluter would be required to reduce emissions; however, polluters who exceed their reduction requirements would be free to sell their unused allowances. In this fashion, pollution reduction can be achieved in the most cost-effective manner, particularly when the marginal costs of pollution abatement differ significantly between industrial sectors as is the case with smelters and power utilities in Eastern Canada. The Task Force recommends the government support the examination by the National Air Issues Coordinating Committee into the potential of implementing such a measure.

Tradeable Permits for Stationary Sources of Nitrogen Oxide (NO_x) Control in Ontario

A tradeable permits system could be implemented for stationary sources of NO_x control in Ontario.

The Canadian Council of Ministers of the Environment (CCME) has adopted the NO_x/VOC Management Plan to address ground-level ozone problems through a mix of federal and provincial actions. A 1992 consultant's study addressing the

control of NO_x in Ontario³ identified significant cost savings related to a tradeable permits system for stationary sources of NO_x in Ontario and industry groups have indicated their interest in moving ahead with this proposal. While a tradeable permits program for larger stationary sources of NO_x in Ontario would be relatively straight forward to implement, NO_x control falls within provincial jurisdiction. The Task Force recommends the government support the examination by the National Air Issues Coordinating Committee into the potential of implementing such a measure.

Tradeable Permits for Limiting Benzene in Gasoline

A tradeable permits system for limiting benzene in gasoline could be introduced.

Benzene is a known carcinogen, and has been declared toxic under the *Canadian Environmental Protection Act* by the federal Ministers of the Environment and Health. The federal government has jurisdiction over this issue and is currently in the process of preparing a discussion paper on the potential use of tradeable permits for reducing benzene in gasoline. Stakeholder consultations have not yet taken place.

A tradeable permit program for benzene would be similar in structure to the U.S. lead phasedown program. Such a system would set limits on the benzene content in gasoline that refiners could not exceed. Permits would be distributed to each refiner in proportion to their production and the limit set. Permits could then be traded between refiners. If the refiner produces gasoline with a higher benzene content, it could buy permits from another refiner to offset its exceedances. In this way, the benzene content in gasoline could be limited in the most cost-effective manner possible. The Task Force recommends the government support an examination of such a measure as part of the Strategic Options Process for the downstream petroleum sector.

Water Pricing

Realistic Water Pricing

Water pricing guidelines or conditions could be attached to water related federal/provincial projects such as irrigation or water treatment infrastructure in order to promote realistic water pricing.

Realistic water pricing, which basically means that consumers should pay the full price of infrastructure and operating costs, is a central element of the Federal Water Policy. As part of an ongoing campaign to support realistic water pricing, a rate setting manual, *Municipal Water and Wastewater Rate Manual; A New Approach to Rate Setting*, was jointly developed by Environment Canada and the Canadian Water and Wastewater Association (CWWA). The manual is being distributed to

³ National Economic Research Associates Inc., *Emissions Trading Program for Stationary Sources of NO_x in Ontario* (Toronto: October 1992).

Canadian municipalities, and a series of regional workshops to promote the manual is currently under way. Combined with this campaign, this measure would send a strong signal that there is a need to move towards more realistic water pricing policies. The Task Force supports the examination of this measure.

Conservation

Agricultural Cross Compliance

Agricultural cross compliance measures could be introduced to promote environmental objectives, such as putting aside 12 per cent of Canadian habitat as protected space.

Cross compliance is a measure which ties the eligibility for the benefits of a public program to the fulfilment of a requirement not directly related to the program. In this case, participation in crop assistance programs such as the Gross Revenue Insurance Program could be tied to the setting aside of land as protected habitat. This could also be an effective way to link assistance programs with soil conservation. This type of measure has not been well examined in a Canadian context and would require extensive consultations to ensure support and to develop a simple and understandable mechanism. The Task Force supports the ongoing examination of this measure by Agriculture Canada in consultation with stakeholders.

Other Measures

The government could examine whether the tax system discourages private companies from undertaking social science research. It has been suggested that the tax system treats expenditures on social science research less favourably than other forms of scientific research to the detriment of the environment.

The government could examine the possible adverse environmental impacts from alleged uneven and inadequate enforcement practices. It has been suggested that the government does not enforce its environmental laws and regulations adequately or evenly, thereby undermining the potential of the legislation or regulation to meet its objective and have a positive impact on the environment.

The government could examine whether there are adverse environmental impacts from the fact that the U.S. imposes a tariff on ethanol imports from Canada, but Canada does not impose a tariff on imports from the U.S. It has been suggested that the U.S. tariff on ethanol imports from Canada poses a disincentive to Canadian ethanol producers.

The government could examine whether the current emphasis in food grading standards on aesthetic appearance, which is derived from perceived consumer demands, constitutes a barrier to sound environmental practice. It has been suggested that the emphasis on the aesthetic appearance of food poses a disincentive to farmers who grow sustainably produced products, or are interested in switching to sustainable farming practices.

CONCLUSIONS AND NEXT STEPS

The Task Force fully supports the federal government's initial efforts to take an integrated approach to economic, social, and environmental policy. It believes that it is of utmost importance that the government maintain the momentum of the initiatives it has taken to date.

The establishment of the Task Force was a step in the practical integration of the government's economic and environmental policies. Through the Task Force, the government brought together a wide range of stakeholders with very diverse views to provide it with concrete recommendations on how such integration could be considered in the context of the next budget.

The Task Force believes that its initial work on measures for consideration in the next budget is a step forward. While the measures may be modest, the fact that they will be considered in the budget consultations is an important innovation in the way budgets are developed in Canada. Moreover, the implementation of some of these measures, again while modest, would be symbolic of a government seriously committed to taking more significant steps in the future.

There was a general recognition that the scope of the issue of existing barriers and disincentives and the potential for economic instruments far exceeds the contribution made by this report. The Task Force had a significant discussion on the topic of government subsidies, grants and incentives and their impact on the environment. There was no consensus achieved in this area. In considering the pursuit of the commitment in *Creating Opportunity* for a comprehensive baseline study of federal taxes, grants and subsidies, the framework provided by the Task Force may prove helpful.

The Task Force considers its recommendations for longer term measures and a process and time frame for the implementation of its framework are as important as its recommendations concerning measures for the upcoming budget consultations. The Task Force therefore recommends that it reconvene in six months to meet with the Ministers of the Environment and Finance to obtain their views on the report and discuss the government's progress in moving forward on the Task Force's recommendations.

It is the view of the Task Force that it is very important for the government to adopt its recommendations for the examination of the longer term measures, and for the implementation of its framework. As we have noted throughout this report, the government should ensure that implementation of these measures builds upon existing processes where possible. We also recognize the relationships between this process and the government's economic agenda, including the emphasis on fiscal restraint and jobs from economic development. The adoption of the Task Force's recommendations, combined with an effective Commissioner of the Environment and Sustainable Development, would assist the government in maintaining its momentum in furthering the practical integration of environmental, social and economic policies in Canada.

APPENDIX I

TERMS OF REFERENCE TASK FORCE ON ECONOMIC INSTRUMENTS AND DISINCENTIVES TO SOUND ENVIRONMENTAL PRACTICES

CONTEXT

In *Creating Opportunity*, the government stated its commitment to the adoption of economic and environmental agendas that converge. In announcing in the February budget the establishment of a multistakeholder task force to find effective ways in which to use economic instruments to protect the environment and to identify barriers and disincentives to sound environmental practices, the government took an important step towards that commitment.

Economic instruments can offer the lowest-cost and most flexible methods of achieving environmental goals, and can further innovation; they can therefore help achieve both economic and environmental objectives. Identifying barriers and disincentives to sound environmental practices is a key step in ensuring that environmental and economic policy signals point the same way. The fundamental goal of this task force is to promote, through its work on economic instruments and barriers and disincentives, the convergence of economic and environmental agendas and thereby sustainable development.

General

The task force will be established in July 1994. It will report to the federal Ministers of Finance and the Environment in November 1994. A decision on whether to extend the life of the task force will be taken after the report has been considered.

With respect to both the economic instruments and barriers and disincentives areas of its work, the task force report will have two components:

- options for measures to be considered in consultations leading up to the 1995 budget; and
- advice on issues to be addressed over a longer time frame.

In carrying out its work, the task force should consult as appropriate. It should both avoid duplicating the work of existing processes and build upon that work whenever feasible and appropriate.

Issues examined by the task force will lie in federal or shared federal/provincial jurisdiction. Measures examined will be federal or complementary to federal measures. Recommendations will be directed to the federal government. Recommendations for options to be considered in the context of the 1995 budget will focus on measures in federal jurisdiction or measures on which the required federal-provincial discussions have taken place. Advice concerning longer term issues may include those in shared federal-provincial jurisdiction for which appropriate federal-provincial processes are required.

The government will provide a secretariat of two full-time officials to provide logistical support and assist in drafting the interim and final reports. Most of the substantive work of the task force will be carried out by task force members drawing on the resources of their own organizations – where necessary, funding will be available to assist this process. Government members of the task force will draw on the expertise of the range of government departments as appropriate. Non-government task force members may wish to second individuals from their organizations to the secretariat; this would enlarge the secretariat and enable it to provide more analytical support.

The task force should seek the assistance of the NRTEE as appropriate in carrying out its work.

Officials from the departments of Finance and the Environment will participate on the task force as experts from the Government of Canada; they will participate in the development of task force recommendations in their capacities as federal experts.

Mandate

Economic Instruments

Based on considerations including the polluter pays principle, competitiveness, sectoral and regional impacts, environmental effectiveness, practical feasibility and any other considerations the task force deems appropriate:

- identify workable options for implementation of one or more market-based instruments for the achievement of established environmental goals, for possible consideration in consultations leading up to the 1995 budget where appropriate; and
- identify areas where market-based instruments could be developed and implemented over a longer time frame, and propose steps that could be taken to advance the development of instruments in these areas.

Barriers and Disincentives to Sound Environmental Practices

Develop a framework for identifying barriers and disincentives to sound environmental practices. The framework should provide an approach and criteria for both identifying barriers and disincentives and making a clear link between the barrier and the unsound environmental practices.

Using this framework, identify one or more barriers and disincentives to sound environmental practices for potential in-depth examination and consultation in the context of preparations for the 1995 budget where appropriate.

Develop options for a systematic review of barriers and disincentives over a longer time frame. The options should include:

- a process and time frame for identifying remaining barriers;
- criteria for determining which barriers should be reduced or eliminated; and
- a process and time frame for reducing or eliminating these barriers.

Deliverables and Time Frames

The task force will submit a report to the Ministers of Finance and the Environment by the end of November 1994, and an interim report to the Deputy Ministers of Finance and the Environment in September 1994.

APPENDIX II

FRAMEWORK FOR ANALYZING PUBLIC POLICY BARRIERS TO SOUND ENVIRONMENTAL PRACTICES

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Introduction

The terms of reference establishing the Task Force on Economic Instruments and Disincentives to Sound Environmental Practices instruct the Task Force, among other things, to:

- develop a framework for identifying barriers and disincentives to sound environmental practices. The framework should provide an approach and criteria for both identifying barriers and disincentives and making a clear link between the barrier and the unsound environmental practices;
- using this framework, identify one or more barriers and disincentives to sound environmental practices for potential in-depth examination and consultation in the context of preparations for the 1995 budget where appropriate; and
- develop options for a systematic review of barriers and disincentives over a longer time frame. The options should include:
 - a process and time frame for identifying remaining barriers;
 - criteria for determining which barriers should be reduced or eliminated; and
 - a process and time frame for reducing or eliminating these barriers.

This document outlines a proposed framework that would respond to these instructions.

Goals and Objectives

The overall goal of identifying barriers to sound environmental practices is the promotion of sustainable development. Ultimately, this goal requires the integration of environmental, economic and social considerations in all levels of decision-making by both private and public sector actors. As such, achievement of sustainable development is likely to require changes in values, human behaviour and institutions.

This paper outlines a framework to help make some of the changes that are required to achieve this objective. The first part of the framework is designed to improve the integration of environmental considerations with economic and social considerations in existing government policies, while the final part identifies reforms that may be required to improve ongoing policy development. Thus, the framework first outlines a process to identify existing public policies that are barriers or disincentives to environmentally sound practices. As such, the framework initially focuses on identifying the environmental implications of the policy measure(s) under review. The framework then emphasizes that decision makers should account for a wide range of considerations, including social and economic impacts and administrative feasibility, when determining which barriers

should be reduced or eliminated. Notwithstanding this design, decision makers ideally would apply clearly understood environmental, economic and social objectives in an integrated and consistent manner throughout their decision-making processes. This is emphasized in the final section of the framework.

Issues

This framework addresses three issues:

- 1) how to identify barriers to sound environmental practices;
- 2) how to determine which barriers to sound environmental practices to eliminate or reduce, taking account of environmental, economic, social and implementation considerations; and
- 3) how to prevent new barriers from being created by integrating environmental considerations with economic and social considerations into on-going government decision-making.

Outline of Proposed Framework

The proposed framework for identifying barriers and disincentives and for determining which barriers and disincentives to eliminate or reduce has six steps (summarized in Figure 1). These steps should be applied iteratively, and the description of them is not intended to convey the impression of a rigid sequence.

Identify barriers

Step 1: Define environmentally sound practice by identifying:

- general environmental objectives;
- guiding principles for sound environmental decision-making and practices;
- environmental priorities; and
- sectoral environmental objectives.

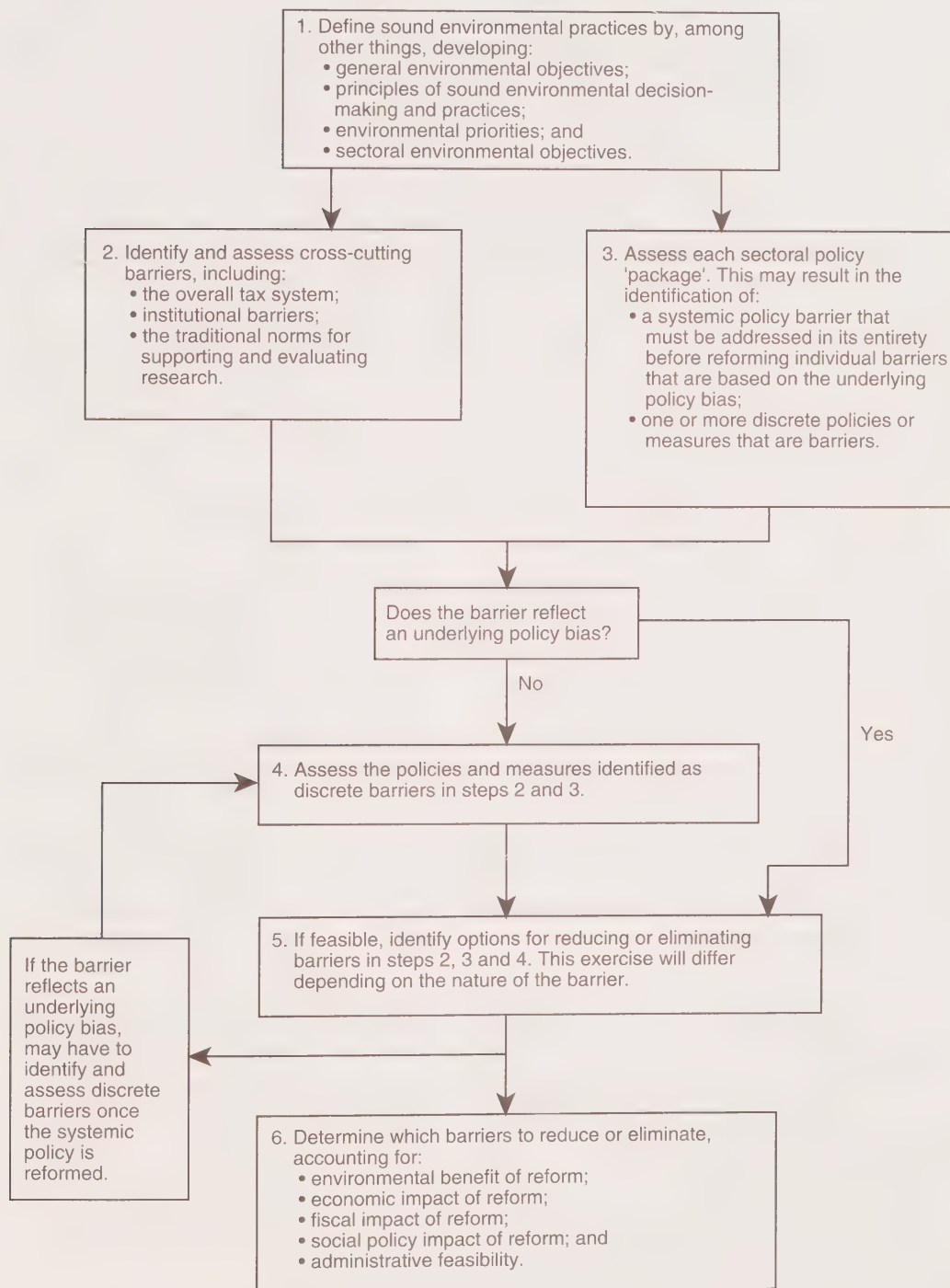
Step 2: Assess all sectoral policies. This may result in the identification of:

- a systemic policy barrier that must be addressed in its entirety before addressing the discrete measures that are premised on the underlying barrier; and/ or
- one or more discrete policies and measures that are barriers (see step 4).

Step 3: Identify and assess cross-cutting barriers to sound environmental practices.

N.B. Steps 2 and 3, in particular, need not be sequential and should, ideally, occur simultaneously.

Figure 1: Summary of the Framework for Analyzing Public Policy Barriers to Sound Environmental Practices



Step 4: Assess the discrete policies and measures identified as barriers in steps 2 and 3.

Determine which barriers to reduce or eliminate

Step 5: Identify options to reduce or eliminate the barriers identified in steps 2, 3 and 4.

Step 6: Determine which barriers to eliminate or amend, taking account of economic and social objectives as well as administrative feasibility.

The first step is based on the observation that, in order to identify barriers, the government first must identify objectives and principles for sound environmental practices. For the purpose of this review, a 'barrier' is then an overall policy approach, a set of policies, or one or more discrete measures that impede attainment of these objectives or principles. More specifically, a barrier may arise either because:

- the government has failed in an attempt to correct for market failures which impede environmentally sound practices; or
- because government action has given rise to an unintended negative environmental effect.

Steps 2 to 4 emphasize that a comprehensive review of barriers should start with an assessment of systemic and sectoral issues that may impede sound environmental practices. This approach reflects the assumption that, in some cases, barriers will represent an underlying policy bias that must be addressed before focusing on discrete measures. This multi-stage approach also provides for an increasingly refined focus and assessment of barriers to ensure that the government understands the overall policy context as well as the particular characteristics of the barriers that are identified.

The analysis in steps 5 and 6 should build on the information gained in steps 1 to 4 and will also incorporate considerations of economic and social objectives as well as administrative feasibility into the decision of whether, and if so how, to reduce or eliminate each barrier.

The first four steps are described in the section 'Identifying Barriers to Sound Environmental Practices'. The final two steps are described in the following section 'Eliminating or Modifying Barriers to Sound Environmental Practices'. The section 'Presenting the Creation of New Barriers' then builds on the discussion in the previous sections and identifies the type of reform required to ensure that barriers are not created in the future.

This analytical framework obviously represents an ideal. It is important to appreciate that there will be several practical constraints to its application. First, some of the information required will not be available or may be too costly to generate. Second, because the relationship between human activity and the environment is so complex it may not be analytically possible to link a certain

government program to a particular environmental consequence. Third, there are inherent limitations to such an analytical approach. The principle of sustainable development is based on the ultimate compatibility of economic and environmental objectives. However, decisions about whether a barrier ought to be removed or altered in some cases will depend on trade-offs between environmental and other objectives. Such trade-offs will be underlain by value choices which will have to be resolved through a political process rather than dictated by an analytical method.

Given these limitations, it must be emphasized that failure to complete any single step in this framework should not impede immediate and ongoing efforts to identify and eliminate discrete barriers, many of which are relatively easy to identify, and some of which have been identified by this Task Force.

Identifying Barriers to Sound Environmental Practices

Step 1: Define Sound Environmental Practice

The definition of sound environmental practice should be based on:

- general environmental objectives;
- principles for sound environmental decision-making and practices;
- environmental priorities; and
- sectoral environmental objectives.

Clear environmental objectives and principles will have a number of benefits. They will help focus the government's analytical and policy making efforts. They will help the government account for the cumulative impact of discrete policies and actions. And they will help decision makers make explicit the trade-offs that may be required when assessing barriers and when developing new policies in the future.

This section provides guidance on the development of environmental objectives and principles.

General Environmental Objectives

The World Conservation Strategy (1980) defined the objectives of environmentally sustainable development as:

- the maintenance of essential ecological processes and life-support systems;
- the preservation of genetic diversity;
- the sustainable utilisation of species and ecosystems.

This definition is widely accepted as the appropriate starting point for a description of environmental objectives. Some countries have developed somewhat more precise overall environmental objectives. For example, the Dutch National Environmental Protection Plan states that the three main components of environmental sustainability that will guide all government decision making in the Netherlands are:

- saving energy and increasing the efficiency and use of renewable sources of energy;
- improving the quality of products and production processes (i.e. extending the lifespan of products, increasing recycling opportunities and improving the environmental impact of production processes); and
- closing materials cycles (i.e. eliminating as many polluting leakages as possible, reducing the use of non-renewables, decreasing the use of raw materials, conserving land and resources).

When developing overall environmental objectives, the government could have regard to these and other, similar examples. (Annex D summarizes selected countries' requirements for the environmental assessment of policies)

The government could also consider referring to physical criteria such as:

- minimizing the ratio of environmental emissions to jobs; and
- minimizing environmental co-efficients (average environmental impact from the consumption of resources and the production of wastes per unit of value).

Principles of Sound Environmental Decision-Making and Practices

The objective of sustainable development requires that policy makers fully integrate environmental, social and economic considerations into their decision-making processes. Thus, sound environmental practices requires that the full range of sustainable development objectives – including environmental – are explicitly accounted for throughout the policy development process – from the identification of the policy objective, to the identification and assessment of options and, finally, to implementation and evaluation. (The section 'Preventing the Creation of New Barriers' discusses in more detail the need to fully integrate environmental considerations into the policy making process in order to ensure that barriers to sound environmental practices are not created unnecessarily in the future).

Sound environmental practice should also be guided by the following broad principles:

- the precautionary principle;
- pollution prevention;
- the polluter pays principle; and
- full environmental cost internalization.

While there is widespread acceptance of each of these principles, they are each sufficiently ambiguous that the government should clearly define each principle (Annex A provides examples of existing definitions).

In addition, principles of environmentally sound practice should reflect:

- existing legal and policy requirements; and
- existing practices with respect to environmental assessment, green procurement, fleet and building management and the handling of hazardous waste.

Environmental Priorities

The ‘Red Book’ identifies a number of priorities:

- reduce the presence of toxic substances in the environment;
- protect the stratospheric ozone layer;
- stabilize greenhouse gas emissions by 2000 and develop sustainable options for further emissions reductions by 2005;
- improve energy efficiency;
- protect biodiversity; and
- sustainable management of natural resources.

The government will need to formally adopt these priorities or priorities like these to help guide the identification and assessment of barriers.

Sectoral Environmental Objectives

Federal departments will also need to develop environmental objectives for each policy sector for which they have responsibility. This will need to be done for all policy sectors and not just for resource sectors.

Various governments, including the federal and provincial governments and a number of NGOs, have developed detailed sectoral environmental objectives. Annex B lists examples of objectives that have been developed for various sectors and that might serve as models for the development of federal sectoral objectives.

Step 2: Assess Each Sectoral Policy ‘Package’

Inasmuch as individual barriers within a given sector may not exist in isolation but rather reflect a particular policy bias, each department should analyze each overall package of sectoral policies and programs for which they have responsibility before focusing on discrete policies and measures. For example, it may be difficult to determine whether incentives to one energy source represent a barrier to sound environmental practices without understanding the full array of incentives available to other energy sources.

In some cases, this sectoral analysis will conclude that the real problem is a systemic approach that underlies all policies in the area. Departments should then focus their attention first on reforming this overall approach before considering the discrete measures that are premised on the underlying barrier: see step 6. In other cases, this analysis will indicate that a discrete number of policies represent barriers which departments should then assess individually: see step 4.

Step 3: Assess Cross-Cutting Policies

Several barriers to sound environmental practices are systemic rather than specific in nature. Examples of such barriers that should be assessed include:

The tax system

The government should assess whether its overall approach to taxation represents a barrier to environmentally sound practices. Whether this is the case, and to what extent, will in part be assessed in the sectoral reviews. However, the tax system is a cross-cutting policy mechanism whose provisions affect activities in a range of sectors. It therefore makes sense to complement the sectoral reviews by a review of the tax system itself.

As a counterpart to such a review, the government could also examine the concept of ecological tax reform, under which it might be possible to use revenue from increased taxes on environmentally damaging goods and activities to offset reduced taxes on labour and income. This review should account for the impact on federal tax policy of the federal-provincial fiscal regime.

Jurisdictional division of responsibilities

As the CCME has recognized by making jurisdictional harmonization its top priority for 1994, the current division of responsibility for environmental management between the federal and provincial governments may impede effective environmental protection.

Institutional issues

A number of organizational and program design issues may impede the development of sustainable policies in a number of sectors. For example, jurisdictional fragmentation within and between government departments may undermine effective policy coordination. The traditional medium by medium focus of environmental legislation may limit the government's ability to account for ecosystem wide issues. Similarly, the focus on command and control regulations versus other, incentive based measures may unnecessarily limit the pollution prevention scope of existing control measures. And finally, some critics argue that the government does not account for public values and expertise as effectively as it could.

Inadequate support for inter-disciplinary research and education

The prevailing norms for sponsoring and evaluating research tend to favour single disciplinary research. As the federal government recognized when it established the Eco-Research Program, however, in many cases research in support of sustainable development should be inter-disciplinary.

It is important to note that the nature of these cross-cutting barriers is different from many of the more specific barriers. In many cases, the removal of a cross-cutting barrier will require changing the way government operates rather than eliminating a specific measure. As such, removal will likely require a series of discrete steps over the long term.

Step 4: Characterize and Evaluate the Discrete Policies and Measures Identified as Barriers in Steps 2 and 3

The government authorities which identify individual policies and measures as potential discrete barriers in steps 2 and 3 would then need to assess each of these discrete measures against the objectives and principles established in step 1.

Issues Related to the Characterization of Barriers

There are a number of issues related to the characterization of barriers. These are summarized below.

Acts of Commission Versus Acts of Omission

It is proposed that the initial exercise of identifying barriers focus on actions that have been taken and not focus on ‘action not taken’ since the process of identifying ‘action not taken’ could be endless. Action not taken is relevant to the determination of how to remedy a barrier that has been identified, however. Action not taken is often no more than the converse of action being taken (e.g., the lack of support to an environmentally-friendly practice may be an issue only because of government support for an environmentally unsound practice). As the next section therefore emphasizes, when determining how to move to more environmentally sound practices, the government should weigh the relative economic, social and environmental merits both of removing the existing support for the unsound practice and of enhancing support for the sound practice (which may require implementing a new initiative).

Current Versus Historic Barriers

The assessment of barriers should distinguish between and account for both ‘current’ and ‘historic’ barriers. The former are government policy measures still in existence. The latter represent the legacy of measures which no longer exist but whose influence is still felt. In some cases, for example, previous infrastructure grants or research and development subsidies may continue to exert an adverse environmental effect. The objective here is not to evaluate whether these barriers

were well-founded in the first place but rather to determine whether their ongoing influence requires the introduction of offsetting measures. In other words, are positive measures required to overcome the inertia of current practices that are, at least in part, supported by the legacy of historic government initiatives?

Categories of Barriers

It may be useful to categorize barriers and disincentives by function. Barriers operate differently and have different institutional implications even in cases where they may have similar environmental impacts. These design and institutional implications become important when the modification or elimination of the barrier is considered.

There are two main categories of barriers: policy barriers and institutional barriers.

Policy barriers

Legislation and regulation

Laws and regulations can act as barriers to sound environmental practices in several ways: they may prescribe courses of action that are not environmentally optimal; they may foreclose environmentally desirable options; they may favour certain technologies or activities over others.

Taxation and spending

Government taxation and spending policies can promote, directly or indirectly, certain activities and provide disincentives for others. These policies may represent barriers whenever they lead to pricing at less than full (marginal) cost, accounting for environmental externalities as well as direct economic costs. This can result from direct subsidies such as grants and tax expenditures. It may also result from indirect subsidies where the price of a product or service (such as electricity or waste disposal) does not reflect full marginal costs.

Research, education and suasion

Governments can influence private sector behaviour through support for research, and through education and moral suasion. In this context, the traditional focus on single disciplinary research by government funding agencies has been cited as a barrier to learning about environmentally sustainable processes.

Crown activity

In some cases, governments may choose to intervene in the market by undertaking a specific activity through a Crown corporation. A barrier to environmentally sound practices may arise where that Crown corporation is treated more favourably than its competitors, for example.

Procurement

The federal government purchases over \$9 billion in goods and services annually. The specifications for these purchases can encourage or discourage environmentally sound practices and products.

Institutional barriers

Program design and administration

Administrative arrangements can have an important effect on environmental quality. For example, inadequate funding or lack of clear guidance provided to monitoring or enforcement programs can undermine policy objectives.

Skills

In some cases, officials may not be trained to identify and account for the potential environmental impacts (both positive and negative) of the programs they administer.

Systems of rewards

As in the private sector, bureaucratic behaviour is, in part, determined by the prevailing system of employment incentives. Where these incentives encourage officials to account only for the narrow considerations relevant to a single department, they may discourage the integration of environmental (and other) values into public policy formation.

Government organization

Jurisdictional fragmentation within and between governments has often been cited as a barrier.

Eliminating or Reducing Barriers to Sound Environmental Practices

Once a barrier has been identified, the government would need to determine what action, if any, should be taken. This task involves steps 5 and 6:

Step 5: Identify options to reduce the barrier; and

Step 6: Determine which barriers to eliminate or reduce, taking account of environmental, economic and social objectives and administrative feasibility.

Step 5: Identify Options

Wherever feasible, in each case where a barrier is identified, the government will need to develop options to reduce or eliminate the barrier. This exercise will be different depending on the nature of the barrier. Cross-cutting and sectoral barriers will reflect policy biases that underlie a number of discrete policy measures. In those cases, reform efforts should commence by developing alternative approaches to attain the government's social and economic objectives for the sector while also achieving the environmental objectives and principles identified in step 1. This will require distinguishing ultimate objectives (e.g., access to energy services) from instrumental objectives (the means by which the ultimate objective is achieved: e.g., increase energy supply or decrease energy demand). In many such cases, departments will have to develop subsequent specific reforms incrementally.

In the case of specific policies and measures that are identified as discrete barriers, this step will follow the more traditional options development process that precedes most policy development. In general, departments should first consider the opportunities for creative redesign by asking, for example:

- what are the policy objectives of the barrier?
- are these objectives still valid?
- are these objectives being attained?
- in any event, could these objectives be attained in a less environmentally damaging manner?
- could redesign also contribute to other objectives?

If it is not possible to achieve the original goals through redesign, then policy makers should consider the following options:

- eliminate or modify the measure;
- introduce a counter-balancing measure(s); and
- no action (i.e. a barrier to sound environmental practices may be justified if (i) it achieves socio-economic benefits and (ii) there are no environmentally superior alternatives to achieve these benefits).

Step 6: Determine Which Barriers to Reduce or Eliminate

Categories of Information

As step 5 emphasizes, in many cases when reviewing specific barriers, and in almost all cases when reviewing cross-cutting or sectoral policy thrusts, it will be necessary to take account of policy alternatives or different ways of achieving the same objective. What is important therefore is the net effect of moving from the existing measure or policy to the alternative.

The five main categories of information to conduct such an analysis are:

The environmental benefits of reducing or eliminating the barrier

The critical issue here is the environmental benefit that may be achieved by changing or removing the barrier, as opposed to what effects the existence of the barrier may be responsible for.

The information that may be relevant to the characterisation of the environmental benefit of reducing or eliminating a barrier is listed in Annex C.

The economic costs and benefits of reducing or eliminating the barrier

These should be characterised:

- for the economy as a whole;
- for sectors (including international competitiveness impacts);
- in terms of their distributional impacts:
 - for producers/consumers;
 - between generations;
 - for labour/ capital; and
 - regionally.

The fiscal impact of reducing or eliminating the barrier

This should be estimated both with respect to the short term fiscal impact and with respect to the longer term fiscal impact that may result from the long term economic consequences of reducing or eliminating the barrier.

The impact on social policy objectives of reducing or eliminating the barrier

Again, the issue to consider is the impact of the proposed policy change on other social objectives.

Administrative and implementation feasibility of the policy change

Relevant questions include:

- what additional information is required in order to implement the policy change under consideration?
- what is the level of uncertainty associated with each of the above estimates?
- what are the institutional considerations in removing or eliminating the barrier?
- what is the likely public response to the proposed policy change?

Setting Priorities

In many cases it will be possible to identify environmental, social and economic impacts of reform on a qualitative basis only. Nonetheless, it will be important to compare these impacts and to recognize that the overall social impact of reducing or removing barriers will vary:

- In some cases, reduction or removal of a barrier will benefit the environment and will also promote social and economic objectives. These barriers should be the top priority for reform efforts.
- In other cases, reduction or removal will impose social and/or economic costs on some parts of society but will nonetheless lead to a net overall benefit.
- Finally, in some cases, reduction or removal might lead to a net overall cost.

In the latter two cases where trade-offs between competing objectives may be required, it will be necessary to set priorities in determining which barriers should be considered for reduction or elimination. The main criteria for determining priorities among these barriers should be:

Costs and benefits to society of reduction or elimination

In conducting this analysis, it will be important to consider:

- focus (would reforming the barrier affect only specific activities, or would it also affect other, unrelated activities?); and
- linkage to other goals (are there other benefits to the reform or would it impose other, potentially offsetting costs?).

Potential impact of reduction or elimination on environmental quality (significance)

The factors to be considered when assessing significance should include:

- technical opinion regarding the magnitude, duration, irreversibility, and uncertainty of the predicted direct, indirect and cumulative environmental effects;
- potential for removal of the barrier to lever additional beneficial changes, either as a precedent or as a fundamental element of an interdependent set of policies;
- time frame within which the policy option can be expected to reach its goal;
- relevant international, governmental and departmental environmental priorities; and
- public concerns.

Administrative feasibility of reduction or elimination

Priority should be given to reducing or eliminating barriers where it is administratively easy to do so, even when these barriers may not be environmentally significant.

Although the focus of this framework is barriers at the federal level, it is important to recognize that federal policy measures exist in a context which includes provincial, municipal and international measures, all of which may exert environmental effects. Thus, the environmental impacts of a federal measure may be exacerbated or neutralized by measures taken in other jurisdictions. It will be important to disaggregate such impacts and to identify the interactive effects of multiple policies in analysing which barriers ought to be reduced or eliminated.

Preventing the Creation of New Barriers

In order to prevent new barriers from being created, the long term objective of the government should be to promote more sustainable forms of development by ensuring that the environmental implications of all government decisions are fully integrated and taken into consideration at the earliest possible stage. The integration of environmental concerns in decision-making therefore requires both that social and economic policies and instruments better reflect environmental objectives and that environmental policies and implementation and enforcement processes better reflect social and economic objectives.

This objective may require a number of initiatives, such as:

- the establishment of sustainable development objectives to guide government activity in relevant sectors;
- the assessment of policy decisions requiring cabinet approval for their environmental implications;
- clear lines of public and internal accountability;
- a commitment to environmental science;
- the development of indicators to measure progress;
- organizational reforms;
- ensuring the cost effectiveness of environmental policies and programs; and
- the development of new analytical tools and skills to improve the government's ability to integrate environmental and economic considerations.

The first example is particularly important. The achievement of environmentally sustainable development will require that environmental considerations be taken into account at every step of the policy-making process, including the definition of sectoral objectives, since how an objective is defined dictates the range of options available to meet it and therefore the scope for integrating environmental considerations.

ANNEX A

GLOSSARY OF TERMS RELATED TO SOUND ENVIRONMENTAL PRACTICES

Precautionary Principle

- “Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” Agenda 21, Principle 15.
- “Complete scientific certainty is not a prerequisite to appropriate action to protect the environment where risk of serious adverse impacts to the environment is evident.” *The Whitehorse Mining Initiative: A Multi Stakeholder Approach to Renew Canada’s Minerals and Metals Sector*, 1994, p. 23.

Pollution Prevention

- “The use of processes, practices, materials and energy that avoid or minimize the creation of pollutants and wastes.” *A Pollution Prevention Framework for Canada: Summary*. Environment Canada, Industry Canada, Jan. 1994.
- “Any action which reduces or eliminates the creation of pollutants or wastes at the source...” *Pollution Prevention Guidance Document and Workbook, Training Manual for Discussion Purposes*. Ontario Ministry of the Environment and Energy, March 1993.
- “The reduction or elimination of pollutants at their source so that waste is not generated.” *New Approaches to Environmental Protection in British Columbia. A Legislation Discussion Paper*. Ministry of Environment, Lands and Parks, Province of B.C., April 1992.

Polluter Pays Principle

- “The polluter pays principle is intended to encourage industries to internalize environmental costs and reflect them in the prices of products.” *Our Common Future*, report of the WCED, Oxford University Press, 1987, p. 221.
- “The polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.” Agenda 21, Principle 16. See also OECD *Guiding Principles Concerning International Economic Aspects of Environmental Policies* Council Recommendation C(72)128, Paris, 26 May, 1972.

ANNEX B

EXAMPLES OF SECTORAL ENVIRONMENTAL OBJECTIVES

Some of the characteristics of environmentally sound policies are listed below for the energy, forestry, fisheries and agriculture sectors. These examples could serve as models for the development of federal environmental objectives in other sectors.

Fisheries

In 1986, the Department of Fisheries and Oceans adopted the Policy for the Management of Fish Habitat, which articulated the following objectives:

- Increase the natural productive capacity of habitats for the nation's fisheries resources, to benefit present and future generations of Canadians;
- Maintain the current productive capacity of fish habitats supporting Canada's fisheries resources, such that fish suitable for human consumption may be produced (the No Net Loss of Productive Capacity of Habitats principle);
- Rehabilitate the productive capacity of fish habitats in selected areas where social or economic benefits can be achieved through the fisheries resource;
- Improve and create fish habitats in selected areas where the production of fisheries resources can be increased for the social or economic benefit of Canada.

Agriculture

The World Resources Institute¹ lists nine criteria for sustainable agriculture:

- replenishment of soil nutrients removed by crops;
- maintenance of the soil's physical condition;
- constant or increasing humus level in the soil;
- no build up of weeds, pests or diseases;
- no increase in soil acidity or toxic elements;
- control of soil erosion;
- minimization of off-farm contamination of the environment;
- maintenance of adequate habitat for wildlife; and
- conservation of genetic resources.

¹ *To Feed The Earth*, WRI, 1987, Ch. VI.

Forestry

The Canadian Forest Service has developed the following criteria and indicators for sustaining forest ecosystems:

Criterion	Indicator
Biodiversity	<ul style="list-style-type: none"> • population levels of representative fauna and flora; • comparison of natural and managed landscapes for species composition, age and distribution; • amount and proportion of ecosystems with protected status, under forest management and in natural or wilderness state; • proportion of forest area regenerated with indigenous species from local seed zones and with exotic species; • proportion of representative provenances and genotypes conserved in natural ecosystems and through adequate storage.
Forest productivity	<ul style="list-style-type: none"> • total area and biomass of the forest; • rates of disturbance by fire, insect, disease, windstorms, forest harvesting, loss of forest cover to other land uses and other forces; • soil nutrient status; • relative growth and productivity of managed and natural stands by eco-region.
Soil and water conservation	<ul style="list-style-type: none"> • measurement of changes in turbidity and siltation in major watercourses; • trends in the use of pesticides.

Airborne pollutants

- long-term monitoring of soil pH, nutrient availability, and plant foliar chemistry;
- deposition rates or air concentration of injurious agents including sulphates, nitrates, ozone and UV radiation.

Contribution to global ecological cycles

- measures of carbon intakes and emissions from the forest sector;
- population trends for trans-boundary migratory species.

ANNEX C

**INFORMATION THAT MAY BE RELEVANT TO
A CHARACTERIZATION OF THE ENVIRONMENTAL BENEFIT
OF REDUCING OR ELIMINATING A BARRIER**

Ideally, each option to reduce barriers should be assessed against the following factors:

- potential to reduce direct effects arising from the implementation of the policy or program;
- potential to reduce indirect effects: the environmental impacts of the economic, social, behavioural and sectoral changes directly caused by the policy or program;
- potential to reduce adverse impacts on the capacity of renewable and non-renewable resources that are likely to be significantly affected by the policy or program to meet the needs of the present and those of the future;
- potential benefit to ecosystem carrying capacities;
- potential benefit to biodiversity;
- potential benefit to essential environmental life-support systems;
- potential benefit to natural heritage;
- potential benefit to built heritage;
- potential benefit to environmental aesthetics;
- potential impact on future development options and plans; and
- potential overall cumulative effect.

In turn, each of these potential effects could be characterized according to one of the following three sets of criteria:

- 1) Standard criteria for characterizing potential impacts identified in a project level environmental impact assessment:
 - nature/form;
 - aggregation;
 - direction (positive or negative);
 - magnitude;
 - probability;
 - rate;

- timing/duration;
 - area/geographic limits;
 - reversibility;
 - scope for mitigation;
 - compliance with applicable laws; and
 - degree of uncertainty.
- 2) A smaller, more aggregated set of criteria could be specified, e.g.:
- the temporal and spatial extent of potential effects;
 - the distribution of the potential effects (who loses and who wins);
 - predicted demographic and resource utilization trends;
 - value: who uses what and what for; and
 - uncertainty and risk.
- 3) Alternatively, decision makers could be required to characterize the potential impacts in terms of the estimated level of risk they pose on a high-medium-low scale.

ANNEX D

DESCRIPTION OF STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESSES

United Nations Conference on Environment and Development

Chapter 8 of Agenda 21 outlines a number of activities endorsed by signatory nations, including Canada. These include 'Improved decision-making processes'. Section 8.4 states that:

The primary need is to integrate environmental and developmental decision-making processes. To do this, governments should conduct a national review and, where appropriate, improve the processes of decision making so as to improve the integration of economic, social and environmental issues.

Section 8.7 then states that:

Governments... should adopt a national strategy for sustainable development... This strategy should build on and harmonize the various sectoral economic, social and environmental policies and plans that are operating in the country.

OECD

The OECD has published a number of discussion documents dealing with the environmental assessment (EA) of policies.

In 1994, the OECD published *Project and Policy Appraisal: Integrating Economics and Environment*, which outlines a detailed methodology for integrating inter-generational environmental costs and benefits into standard cost-benefit assessments.

In 1992, the OECD also published a working paper, *Market and Government Failures in Environmental Management: The Case of Transport*. This study reviewed transport policies in OECD countries and identified three general categories of failures:

- Economic intervention failures with respect to:
 - road provision and user charges that do not adequately reflect the full cost to society of such activities;
 - fuel taxation differentials;
 - fiscal concessions; and
 - transport subsidies.

- Regulatory and control failures with respect to:
 - market entry;
 - mode availability;
 - route choice and traffic direction; and
 - vehicle design.
- Administrative failures with respect to:
 - division of responsibility;
 - enforcement and monitoring; and
 - flexibility and responsiveness.

Australia

In 1992, the Council of Australian Governments endorsed the *National Strategy for Ecologically Sustainable Development*. The Strategy identifies guiding principles for ecologically sustainable development. The 1994 Edition of the Government of Australia *Cabinet Handbook* states that:

The Government is committed to incorporating ecologically sustainable development (ESD) principles into its decision-making, in part by ensuring Cabinet documents address the ESD implications of their recommendations or conclusions, including economic, environmental and social impacts.¹

The Handbook also states that the Cabinet document policy assessments shall be done by reference to the principles of ESD as set out in the National Strategy.

In 1993, the Commonwealth Environment Protection Agency initiated a comprehensive review of environmental impacts assessment in Australia. In 1994, the Agency released a number of review documents, including one entitled *Assessment of Cumulative Impacts and Strategic Environmental Impact Assessment*. This document observes that although there is currently no legal requirement for strategic environmental assessment (SEA), the government's ultimate goal should be to make SEA, incorporating cumulative impact assessment, "among the principal institutional tools for achieving ESD."

¹ Section 5.41 then states that "only those documents which concern significant economic, environmental and social issues that have the potential to affect ecological processes must indicate the ESD implications."

The review document argued that since ESD will require fundamental changes to decision making, SEA should be introduced in stages, as follows:

- require cumulative impact assessments for project level EAs;
- require SEA for selected policies, programs and plans (PPPs);
- establish screening criteria and guidelines for SEA;
- progressively establish a nationally agreed set of criteria for ESD that will become the basis for a comprehensive SEA requirement; and, finally
- introduce an 'Ecologically Sustainable Development bill' that will require SEA for all PPPs.

Canada

In June 1990, the federal cabinet announced that all new policies and programs would be reviewed for environmental implications, except in circumstances such as an emergency or where national security concerns indicate that an EA would be inappropriate.

The 1990 Cabinet directive does not specify a process for assessing policies and programs. Subsequently some departments have devised their own processes. Two examples are described here.

In 1993, NRCan promulgated a recommended five-step process for reviewing existing and proposed energy policies:

1) Policy description

- describe the policy context, rationale, objectives and priorities.

2) Identify activities resulting from each option

- identify the type and nature of the physical activities that will result directly and indirectly from each option;
- describe the activities in terms of: form, location, duration, magnitude, aggregation, probability, rate, intensity, and reversibility.

3) Identify and describe the environmental impacts

- identify the impacts to social, economic and environmental systems;
- describe the impacts according to above criteria plus identification of affected groups.

- 4) Determine significance of environmental impacts as high, medium or low, based on:
 - scope for mitigation;
 - compliance with existing standards;
 - uncertainty;
 - sensitivity to changes in conditions and assumptions; and
 - perceived public concerns.
- 5) Establish reporting, monitoring and evaluation processes.

In 1993, CIDA developed a *Guide to Integrating Environmental Considerations into CIDA Policies and Programs*, which recommends that all programs and policies be assessed by asking four questions:

- 1) Have the needs which the program or policy is intended to meet been properly defined and can these be better served from an environmental point of view by some other means?
- 2) What are the potential positive and negative effects of the policy or program on the environment and natural resources?
- 3) What is the nature, scope and significance of the environmental effects? and
- 4) How can these effects be managed?

The *Guidelines* indicate that each of these questions should be answered by reference to the standards set out in the 1992 publication, *CIDA's Policy for Environmental Sustainability*.

Denmark

Administrative Order No. 31 issued by the Danish Prime Minister's Office in February 1993 requires all ministries to conduct environmental assessments of bills and 'other government proposals'. The Danish Ministry of the Environment subsequently issued an advice document that recommends that Ministries assess the potential impacts at the local, regional or global level on:

- safety and health;
- flora and fauna;
- surface of the earth, soil and percolations;
- water;
- air;
- climate;
- landscape and land use;

- other resources, including the use of renewable and non-renewable resources;
- waste;
- historic buildings and monuments;
- public health and welfare; and
- safety in connection with the production, handling or transport of substances harmful to the environment.

Order No. 31 requires an initial screening to determine whether there are likely to be any such impacts, and requires a full EA where there is likely to be one or more significant effects, or where a number of minor impacts may, together, be significant.

Significance is to be assessed taking into account the following questions:

- Does the bill/proposal affect the possibility of ensuring sustainable development or prevention of environmental damage?
- Are the environmental impacts contrary to any general guidelines or will they undermine compliance with such guidelines?
- Does the impact involve a particularly harmful or irreparable risk?
- Will the impact affect a large geographic area or involve radical change in the ecology or landscape of the affected areas?
- Is the area affected particularly vulnerable or sensitive?

Netherlands

The Dutch National Environmental Protection Plan (NEPP) specifically requires the assessment of existing policies. The Dutch have devised a multi-level process similar to the framework recommended here. The Dutch process requires Departments to apply increasingly specific criteria at each level of analysis.

Under the NEPP, the Dutch have determined that the three main components of environmental sustainability that will guide all decision making are:

- saving energy and increasing the efficiency and use of renewable sources of energy;
- improving the quality of products and production processes (i.e. extending the lifespan of products, increasing recycling opportunities and improving the environmental impact of production processes); and
- closing materials cycles (i.e. eliminating as many polluting leakages as possible, reducing the use of non-renewables, decreasing the use of raw materials, conserving land and resources).

The NEPP also establishes a framework for the negotiation of more specific sectoral objectives that are based on these overall objectives. The assessment of existing policies is done with reference to these more detailed objectives.

The Dutch process for reviewing existing policies is based on a multi-step plan:

- 1) The Ministry of Housing, Physical Planning and Environment draws up a survey of the policy areas to be analyzed for each ministry.
 - These are classified by organizational element.
 - This survey covers only ‘existing, externally oriented’ policies, and does not include policies related to the internal functioning of ministries.
- 2) Each ministry conducts an initial screening of each of its policy areas identified as having a bearing on sustainable development.
 - This screening is conducted against a checklist consisting of elaborations of the three basic objectives identified above: saving energy and increasing the efficiency and use of renewable sources of energy; improving the quality of products and production processes; and closing materials cycles.
 - The result of this step is a selection of policy areas of relevance to sustainable development.
 - Priorities may have to be assigned to these policies on the basis of Ministry objectives.
- 3) Analysis of the relevant policy areas and the set of instruments to be used.
 - Instruments are categorized as follows:
 - subsidy and grant schemes, price measures, fiscal regulations and income measures;
 - regulatory and sectoral implementation measures;
 - procurements and public tenders;
 - licences, prohibitions and regulations; and
 - education and information.
 - Again, this analysis is conducted with reference to the criteria listed above.
 - The result of this step is the identification of instruments that may be relevant to the attainment of the NEPP sustainable development objectives.
- 4) Analysis of instruments
 - The instruments identified in step 3 are described and analyzed in more detail.
 - The test to determine whether an instrument has sufficient impact on sustainable development to justify further elaboration is the nature and potential scale of its intended and unintended effects on the factors listed above.

- The Strategy also lists a detailed set of additional considerations for this analysis, including:
 - does the instrument allow aspects of sustainable development to be taken into account in policy development?
 - do the activities and behaviour which the instrument is designed to bring about lead to:
 - the recycling of raw materials;
 - the prevention of waste flows;
 - a reduction in mobility;
 - energy saving;
 - the use of renewable sources of energy;
 - changes in land use and a lack of any limits on the multifunctional use of the land; or
 - sustainable preservation and development of ecological features?

New Zealand

A 1994 discussion paper states that the long term objective of the New Zealand government is to ensure that national policy statements influence central and local government policy formation. However, the paper indicates that, at present, the government is considering a 'simpler first step' involving the application of traditional project level EA procedures to proposed policies and programs.

United Kingdom

The *United Kingdom Sustainable Development Strategy*, 1994 states that although "not all government policies and programs will have significant environmental effects, all need to be examined on a consistent and systematic basis." (p. 197) Chapter 29 of the *Strategy* requires all Departments to ensure that "papers for Cabinet and Ministerial Committees should, where appropriate, cover any significant costs or benefits to the environment."

The British Department of the Environment (DOE) has published a number of guides to policy assessment. In 1991, DOE published *Policy Appraisal and the Environment* and this year plans to publish a booklet on *Environmental Appraisal in Government Departments*.

Policy Appraisal and the Environment outlines a 10-step process for policy development and appraisal that is based primarily on cost-benefit procedures:

- 1) summarize the policy issue;
- 2) list and set priorities among the objectives;
- 3) identify the constraints;
- 4) specify the options;
- 5) identify the costs and benefits, including environmental costs and benefits;
- 6) weigh up the costs and benefits;
- 7) test the sensitivity of the options to possible changes in conditions or assumptions;
- 8) suggest the preferred option;
- 9) set up any monitoring necessary; and
- 10) evaluate the policy at a later stage.

DOE also requires the environmental assessment of all ‘development plans’. In 1993, DOE published a ‘Good Practice Advice’ for the assessment of development plans that recommends a three stage process:

- 1) establish an environmental baseline, identifying all significant aspects of the environment on which the plan can have an impact;
- 2) scope the plan, among other reasons, to provide an initial indication of the environmental issues that will require particular attention; and
- 3) appraise the environmental effects of the policies and proposals that are part of the plan.

DOE recommends that the assessment focus on four levels:

- the establishment of the broad strategic objective;
- the formulation of the spatial strategy;
- the policy development stage; and
- the site selection stage.

DOE also recommends that the assessment at each of the three stages refer to a specified set of environmental factors. These factors are grouped into three categories:

- Global sustainability (transport energy efficiency: number and length of trips; transport energy efficiency: access to alternative modes; built environment energy efficiency; renewable energy potential; CO₂ fixing; and wildlife conservation).

- Natural resources (air quality; water conservation; land and soil; and minerals conservation).
- Local environmental quality (landscape; 'liveability'; cultural heritage; open space; and building quality).

United States

Section 102 of the National Environmental Policy Act (NEPA) requires that all agencies of the federal Government shall include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on:

- the environmental impact of the proposed action;
- any adverse environmental effects which cannot be avoided should the proposal be implemented;
- alternatives to the proposed action;
- the relationship between local short term uses of man's (sic) environment and the maintenance and enhancement of long-term productivity; and
- any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

The US Council on Environmental Quality (CEQ) has established that 'major federal actions' include programs, rules, regulations, plans, policies, procedures and legislative proposals. CEQ regulations under NEPA describe the nature and scope of the Programmatic Environmental Impact Statement and state that "Agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision-making."

A number of federal agencies have promulgated additional guidelines on programmatic environmental assessment. Many of these address procedural issues such as documentation and public notice and consultation requirements. Some also specify factors relevant to the determination of whether an anticipated environmental impact is significant.

For example, the National Oceanic and Atmospheric Administration Order 216-6 provides specific guidance on determining significance with respect to Fisheries Management Plans and require that an EIS must be prepared if the proposed action may be expected to:

- jeopardize the productive capability of the target resource species or any related stocks that may be affected by this action;
- allow substantial damage to the ocean and coastal habitats;
- have a substantially adverse impact on public health or safety;

- affect an endangered or threatened species or a marine mammal population adversely; or
- result in cumulative effects that could have substantial adverse effect on the target resource species or any related stocks that may be affected by the action.

Similarly, the *NEPA in Federal Aid Proposals* guide provides some guidance as to what may constitute a significant impact:

- extensive geographical scope;
- major cumulative impacts; or
- adverse impacts on public health or safety.

